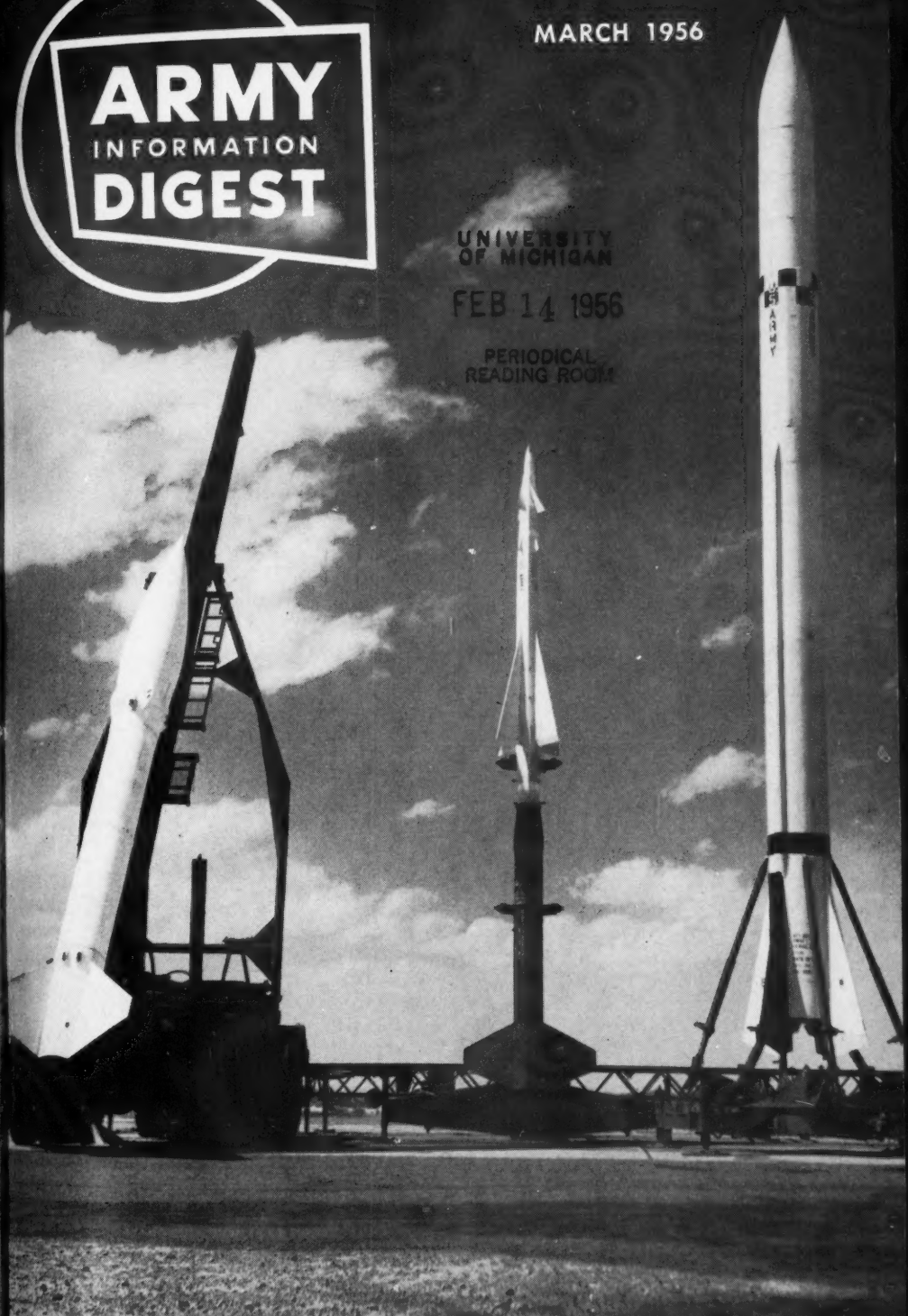
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OFFICIAL MONTHLY MAGAZINE of the DEPARTMENT OF THE ARMY

The mission of ARMY INFORMATION DIGEST is to keep personnel of the Army aware of trends and developments of professional concern.

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THREE LETHAL ADDITIONS to the Army's arsenal—the *Honest John* medium to long-range artillery rocket, the supersonic *Nike* antiaircraft guided missile, and the *Corporal*, a long-range guided missile for use against surface targets—are arrayed in the front-cover scene at White Sands Proving Ground, N. Mex. The Nike's vital role in antiaircraft defense is described in the lead article, "Sentry of the Skies."

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ARMY INFORMATION DIGEST

MARCH 1956

Volume 11

Number 3

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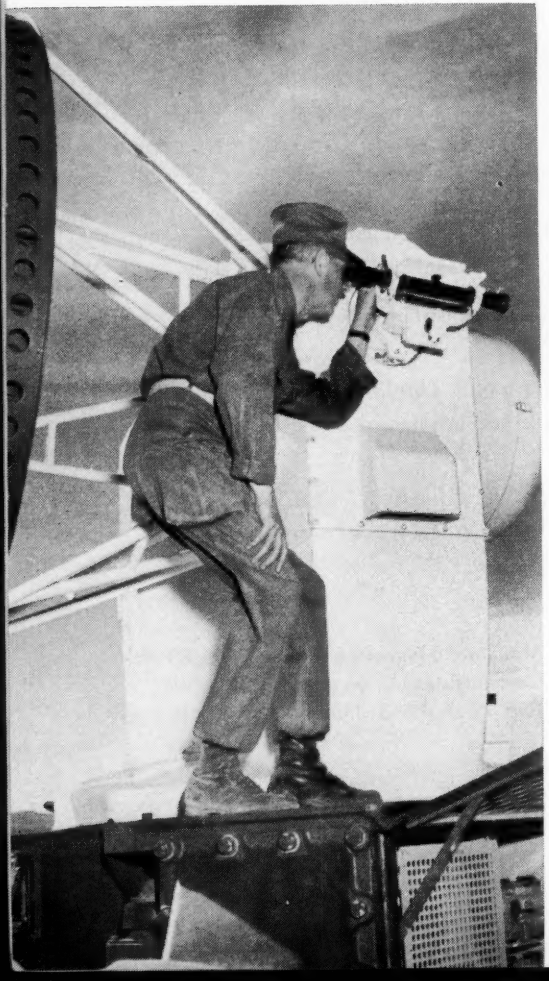
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Army Antiaircraft Command—

Sentry of the S

Lieutenant General S. R. Mickelsen

A battery commander checks siting of a Nike radar set, typical of those maintained throughout the country.



DURING any holiday season, a distinctive band of soldiers may seem strangely alone as they look watchfully toward the night sky.

They are in the hills of Marin County, Calif., in the sand and sagebrush of the Hanford desert. They are in raw patches of earth not far from the splendid homes of Detroit's Grosse Pointe. They are in sight of the roller coaster at Coney Island.

These are the men who man the long watch of the Army Antiaircraft Command, the Nation's youngest major command. These are the men who form the final defense of the Continental United States against an air attack.

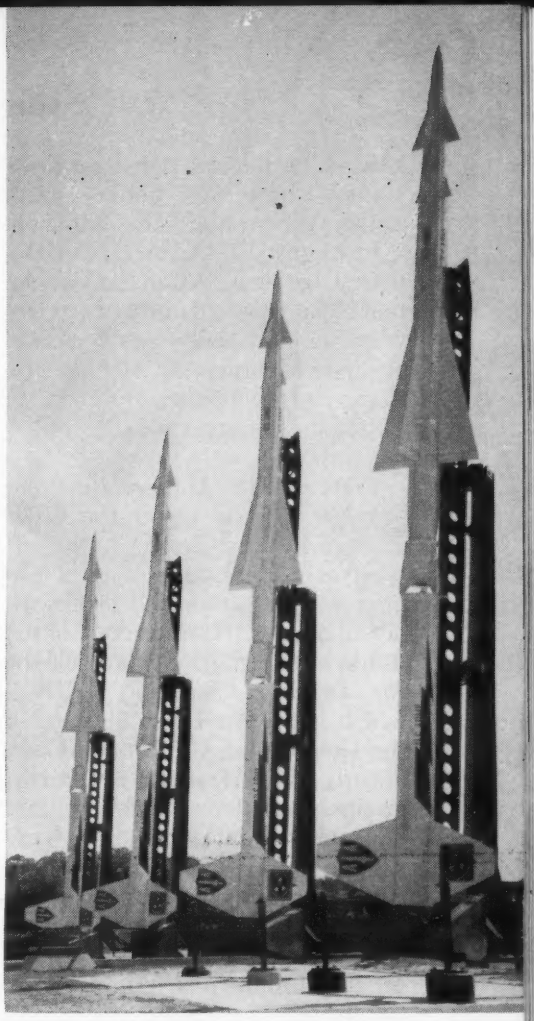
This winter the Army Antiaircraft Command is barely five years old. The majority of its men didn't get home for Christmas. They were manning their needlelike Nike guided missiles, their awesome 90-mm. and 120-mm. guns, their automatic Skysweepers. Theirs is unending vigil, kept that the Nation might observe the holidays

LIEUTENANT GENERAL S. R. MICKELSEN, USA, is Commanding General, Headquarters, Army Antiaircraft Command, Ent Air Force Base, Colo.

Skies

and every day with the knowledge that theirs is a nation on guard.

Its mission, stated simply, is to provide antiaircraft defense of specified critical areas. That defense is a combination of men, weapons and determination that will, to the extent of their capabilities, prevent attack by enemy aircraft in defense areas. It is to this concept and the full accomplishment of the mission that the entire Army Antiaircraft Command is dedicated in making its contribution as the Army member of the Continental Air Defense Command.



Nikes are raised to vertical firing positions at a guided missile site.

LET'S GO back a few years, to 1948. The rapid deterioration of the international situation prompted the Army's decision to undertake a rapid expansion of its antiaircraft artillery. A year later antiaircraft battalions were moved to training centers near cities which these batteries would ultimately defend, and a few months later batteries actually moved to their positions. These units were the first to establish the Army antiaircraft part of the air defense team.

The Army Antiaircraft Command, or ARAACOM, was established by Department of the Army General Order Number 20, 1 July 1950, shortly after Korea was invaded. Major General Willard W. Irvine was the first commanding general.

At the outset, the command was responsible for the planning and deployment of the antiaircraft battalions, maintaining cognizance of the training and readiness of the units. It did not begin to exercise the full functions of command until 10 April 1951. At this time all trained Army antiaircraft units al-

located to the air defense of the United States came under control of the Army Antiaircraft Command.

In August 1954, Secretary of Defense Charles E. Wilson announced that elements of all military services were being officially combined into a single Continental Air Defense Command, with headquarters in Colorado Springs, Colo.

THE ARMY Antiaircraft Command is directly under the Chief of Staff, United States Army. It receives administrative and logistical support from the six continental Armies. The structure of the headquarters generally parallels the Air Defense Command (ADC), which is the Air Force element of the Continental Air Defense Command. Antiaircraft brigades, groups, battalions and batteries have moved into the air defense system alongside the air divisions, wings, groups and squadrons of ADC.

Under the Commander-in-Chief of the Continental Air Defense Command, the Army, Navy, and Air Force work as a team with a shared mission—to protect the continental United States from attack by enemy aircraft. This consciousness of a shared mission has provided a close relationship from the outset. The complementary nature of antiaircraft and interceptors is fully recognized, as is the fact that antiaircraft artillery is an integral part of the air defense team.

Under the directive of the Joint Chiefs of Staff, antiaircraft units pass to the limited operational control of the appropriate Air Force Commander in the event of attack.

DEFENDING the continental United States against air attack is a big job. The United States is big. Its borders are some ten thousand miles long, surrounding an area of three million square miles. Enemy capabilities are changing. Speeds and altitudes of modern bombers are ever increasing. With increasingly accurate navigation and radar bombing devices, distance and weather are no longer deterrents to long-range bomber flights.

The air defense pattern is broken down roughly into three essentials —detection, interception, destruction. The latter two are largely the responsibility of the Air Force but detection is also an Army and Navy matter. There must be an adequate warning system that will provide a detection capability extending far enough to allow the necessary time for interception by fighter planes or for action by the antiaircraft forces. The Air Force has its high performance fighter-interceptor aircraft capable of making interception and destruction in any kind of weather. Destruction is also the job of the Army—destruction through antiaircraft guns and guided missiles for close-in protection of specific targets.

The air defense system, in addition to materiel and money for operations, requires several other important elements—namely, real estate on which to locate radar bases, fighter squadrons, and antiaircraft units. The location of many of these bases with respect to the defense area is critical. Therefore real estate is an important and often very valuable element of the air defense system. Another important element is personnel. Air defense requires a lot of people. They must be provided in sufficient quantity



Members of the Army Antiaircraft Command are constantly ready at the Headquarters Combat Operations Center.

to permit 24 hours a day, 7 days a week, 365 days a year operation. They must be expertly trained to man and maintain their intricate, complex equipment.

The Continental Air Defense Command (CONAD) is the first "joint" command inside the United States in the Nation's history. Defense officials feel it is a *must* because it is no longer possible to defend this country in the split-second world by trying to solve with the separate service chiefs, individual problems as they might occur in the event of an emergency.

TODAY the Army Antiaircraft Command is a major command, and antiaircraft defense of the United States is one of the Army's major responsibilities. Although the Army stresses defenses for its heavily populated and industrial areas, many large cities do not have antiaircraft defenses at the present time. The Army can stretch a defense dollar only so far, and there simply are not enough guns, missiles and men to fill the required spots.

To provide the maximum antiaircraft defenses for the people of America and the industrial and strategic areas of vital concern, the resources of ARAACOM are fully exploited. As each additional unit is made available, it quickly takes its place in the defense scheme, gradually forming rings of protective steel around critical areas.

ARAACOM has divided the area of its responsibility into five regional commands for effective and efficient control—1st Antiaircraft Regional Command has its headquarters at Fort Totten, N. Y.; 2d Antiaircraft Regional Command is at Fort George G. Meade, Md.; 5th Antiaircraft Regional Command is at Fort Sheridan, Ill.; Central Antiaircraft Regional Command is at Grandview, Mo.; and the 6th Antiaircraft Regional Command has its headquarters at Fort Baker, Calif.

An important contribution to the overall antiaircraft defense plan for the United States is the National

Guard program. Various state forces are augmenting defenses in certain areas; they are assuming the manning of gun battalions of the Regular Army as the latter units convert to Nike, and they are preparing to provide additional antiaircraft defenses for any future D-day.

In the conversion program of Regular Army gun battalions to Nike, the gun sites and equipment are being made available to National Guard units. Instructor-maintenance teams are left behind for a period of up to three months by the Army to assist Guard personnel in learning the essentials of operation and maintenance.

ON 17 December 1953 the Department of the Army announced that its first Nike guided missile battalion would be installed at Fort George G. Meade, Md. Until that time, the defenses had been manned by the conventional guns and by the new fully automatic weapon, the 75-mm. Skysweeper. For nearly two years thereafter, these old standbys were still the major weapons in the antiaircraft arsenal. They are now, and will continue to be, very much in use and highly regarded for defense against low flying aircraft.

The 120-mm. gun is the largest antiaircraft gun used by the Army Antiaircraft Command. It weighs about thirty tons, fires a 50-pound projectile at the rate of twelve per minute, and can hurl this projectile over eight miles into the air. The 90-mm. fires a 25-pound projectile at the rate of 25 per minute.

The Skysweeper has replaced the old .50 caliber and 40-mm. automatic weapons in the air defense system and is designed primarily as protection against extremely low-flying aircraft. The big feature of this weapon is the mounting of the radar and computer right on the gun carriage, making it operatively sufficient in itself. This one-piece gun weighs about ten tons and has an automatic loading system which enables it to fire at the rate of 40 to 50 rounds a minute. Once the radar locks on a target, all the crew needs to do is to keep loading ammunition—the gun does the rest.

THE NIKE is the only antiaircraft guided missile system that is operational today, in the hands of combat troops, and ready for immediate launching against enemy aircraft that might threaten the safety of the Nation.

Essentially, the Nike system consists of two parts—an expendable missile, and ground-based launching and control equipment.

The Nike is a liquid-fueled supersonic antiaircraft missile, approximately 20 feet long and about one foot in diameter, with two sets of fins for stability and steering. The missile and booster weigh slightly more than one ton.

When launched, the missile is attached to a booster half the length of the missile. The booster accelerates the missile to supersonic speed, separates from the missile in a matter of a few seconds, and falls into a predetermined booster disposal area. The Army is testing a self-destroying booster which will eliminate the need for a disposal area.

Each battery is ready to fire at a moment's notice. Each is on duty 24 hours a day, seven days a week. Nike is never fired from its operational site except in event of attack. Personnel go to established Nike

firing ranges for regular annual practices. (See "Manning Our Nike Sites," October 1955 DIGEST.)

The ground control equipment consists of a number of major components. These include three radars, a computer, automatic plotting boards, remote control launching racks, and power generators.

One of the three radars is an acquisition or search radar which detects the approach of distant aircraft. The second is a tracking radar which picks up and tracks the *target* as it approaches and feeds information regarding its location and movement into the computer. The third radar tracks the *missile* throughout its flight, reports its movement to the computer, and sends commands to the missile telling it where to go to hit the target.

The computer, radars, and associated control equipment are located at the Battery Control area. The remotely controlled launching equipment is at the Battery Launcher area.



Gun crew of a 75-mm. Skysweeper swings into action during a practice alert.

IN A typical engagement, warning of the approach of a hostile aircraft will come from the early warning system operated by the Air Force.

The acquisition radar continuously searches the sky for approaching aircraft. When the target is acquired, the information is relayed to battery control. While the target is still many miles distant, the target-tracking radar takes over the designated target. Using information from the target-tracking radar, the computer begins recording the path of the hostile aircraft. In the meantime, the missile tracking radar is trained on a missile.

At the appropriate moment, the missile is launched. From that instant onward, the target and missile tracking radars work in unison, one locked on the target, the other on the missile. On the basis of data from these radars, guidance is provided the missile to intercept and destroy the target. Any evasive action taken by the target is immediately detected and corrective information is given to the missile.

The Army Antiaircraft Command, as a member of the air defense team, operates on the concept that simultaneous, widely diversified air attacks can be directed against any or all of the major targets within the United States at any given time. To counter this possible scheme of attack and to minimize the inherent advantages of surprise, CONAD has established alerting procedures and communications systems capable of passing warnings throughout the country.



A Nike is readied for launching at Red Canyon Range Camp, N. Mex. where crews train in handling the missile.

JUST HOW the Army Antiaircraft Command would operate in the event of an attack is indicated by a true story, when on the morning of 17 April 1952 it took up the condition of "Air Defense Readiness." It was not for fun. It was next to the real thing.

At 25 minutes past midnight on the morning of 17 April, the Combat Operations Center at Colorado Springs received word from the Western Air Defense Force that four vapor trails heading eastward at high altitudes had been sighted by a member of the Ground Observer Corps over Nunivak Island, off the coast of Alaska.

The officer on duty at the COC immediately informed the intelligence duty officer, who saw the potential danger of the Nunivak sighting with the background of previously received intelligence matter. Just as clarification of the Nunivak sighting was attempted, all the lines to Alaska went dead. The tempo of activity was shoved into high gear.

Then, at 0310 hours, the COC received word that Eastern Air Defense Force had reported five "unknowns" coming in over Presque Isle, Maine.

The Air Defense Command immediately called for full Air Defense Readiness.

Jet fighters scrambled to intercept the "mystery" planes for identification.

The Army Antiaircraft Command sent out previously prepared messages alerting all units on-site.

The notifications were made. All units were ready for action. There was nothing to do but wait until about 0430, when the unknown aircraft coming from Alaska should have reached Seattle.

The jet fighters intercepted the Maine "unknowns" and found them to be oversea transports which had strayed from their courses. The Nunivak vapor trail sightings disappeared as mysteriously as they had appeared. The vigil was over.

THROUGH this involuntary exercise, the Air Defense Command found that the entire air defense team had reached a maximum state of readiness within a few minutes, that it could spring into action at a moment's notice. It was ready for the next time that might be the real thing.

That is what would happen at the "higher headquarters" if an attack should loom against the United States. But what about the men down the line—the men who would do the actual firing?

Waiting is their task—waiting, and training.

Sensitivity of the Army Antiaircraft Command's mission and the complexity of its equipment require highly skilled and qualified personnel. They are the minutemen of today. Alertness, both in preparedness and in event of attack, is a constant byword predominant among the men manning the ring of steel.

FOR EXAMPLE, take the men of Charlie Battery of the 71st AAA Missile Battalion. They live in comfortable masonry buildings. The food is good; there is recreation on-site. But theirs is the long watch.

Their missiles are not to be fired until the word comes that enemy planes are approaching, that they have outrun the aircraft interceptors. Theirs is a job of sending missiles screaming into the air. Upon them depends the fate of thousands of people in the Nation's Capital nearby.

They must be ready, 24 hours a day, seven days a week. Around the clock at Charlie Battery are the men at switchboards and telephones, men on duty with the radars, their faces ghostly in the pale green light from the scopes. Others, awake or sleeping, are ready to head for the "boxes," the underground concrete launchers which transform Nike from a graceful needle into a weapon of death.

The men behind the guided missiles and guns have live ammunition and they know how to use it. They are the hard core within the ring of steel.

Always there is training—training with the radars, training in fueling and arming, joining the booster to the missile itself, training and maintenance.

At a glance, the average soldier might think that such a program would not inspire reenlistment to a marked degree. But the AA soldier is not the average soldier. First, he realizes that his specialized training is a distinction in itself and a rarity among the troops who comprise the ground forces.

Second, the Army itself has gone a long, long way to make living conditions attractive since those early days when the men lived in tents placed in seas of mud, or in the blistering deserts of Hanford.

Family housing is a big item. The Congress has approved a huge family housing program, with 910 sets of dwellings to be constructed on, or immediately adjacent to, Nike sites during the Fiscal Year 1956. Plans call for on-site family housing at all AA sites where housing requirements exist. This program will enhance operational capabilities as well as improve living conditions of families authorized government quarters.

The sites themselves are beginning to look good. Initially, they were considered eyesores by the communities. Now, grass, shrubs, trees, and flowers are being planted at the sites. Buildings are being painted in colors corresponding with those of local communities. Sidewalks and hard surfacing of interior roads are being provided.

The Army, too, has made a small post out of each battery site. They have movies, clubs, miniature but adequate post exchanges. These posts have a certain *esprit* difficult for a large installation to attain. The nearly obsolete phrase, "my old outfit," is beginning to reappear.

EACH JOB in an antiaircraft unit requires varying degrees of skill,



Not creatures from science fiction, these soldiers wear protective clothing in refuelling operations at a Nike battery.

from the highly technical knowledge of the electronic technicians who maintain the multimillion dollar radar equipment to the skilled truck driver.

Schools play an important part in the development of the antiaircraft soldier. Maintenance of the complex equipment utilized in an antiaircraft gun or missile battery requires that individuals have a knowledge of certain essential elements of mathematics, physics, electronics, and materiel. This knowledge can be imparted best at a school such as the Antiaircraft Artillery and Guided Missile School at Fort Bliss, Tex. Not all individuals can meet the prerequisites established for attendance at the various courses. However, those who do may volunteer for attendance, and if accepted will be sent to a service school for advanced technical training in varied fields.

THE Army Antiaircraft Command has its problems, one of which is personnel. Key specialists of a Nike battery are trained at the AAA and GM School at Fort Bliss, in school courses of from nine to forty-two weeks. There is always a big demand by civilian industry for electronic technicians, and many school-trained technicians are attracted to positions in the civilian fields.

In the field of personnel, the Department of the Army recently took recognition of the command's requirements for skilled technicians by giving it broader personnel control responsibility. This new policy gives ARAACOM an autonomy in personnel administration equal to that of oversea commands or of ZI Army commands.

In public relations, the Nike program has touched off some knotty problems. Army Engineers have met with strong resistance during the processes of acquiring real estate for Nike sites. Some local communities have not been at all in sympathy with the program, particularly in land matters or stationing troops in residential areas.

The command has launched an active community relations program to inform the people of the necessity to locate units in those communities, and to explain minimum land requirements. It is very much aware of the impact on communities of installing this new weapon in their "back yards." After occupying the sites, the command integrates itself into the community's daily life as a good neighbor.

THE ARMY Antiaircraft Command is emphatic in its belief that the antiaircraft defenses are a blessing, not a burden. It believes that second-choice sites for Nike will mean second-grade defense of lives, of cities. It seeks an informed civilian opinion.

It is gaining that informed opinion, too.

There is the case of an elderly gentleman near the Baltimore defenses, who once complained about the early-morning whistles of a nearby battery's first sergeant. As he explains it—

"Suddenly it dawned on me why those men are there—they are there to protect *me*. When I hear that whistle now, I just turn over and go back to sleep. I know that my country is on guard."

Organizational Changes

A RECENT reorganization within the Army Staff is designed to clarify and centralize areas of responsibility among the Army's Deputy Chiefs of Staff, and to improve administration of the Army.

With the exception of the Offices of the Assistant Chief of Staff for Intelligence, the Chief of the Reserve and ROTC Affairs, Chief of the National Guard Bureau, The Inspector General, and The Judge Advocate General, all military staff functions will now be placed under the direction of a Deputy Chief of Staff, the Comptroller of the Army, or the Chief of Research and Development.

In two instances the title, as well as the functions, of a Deputy Chief of Staff have been revised.

Lieutenant General C. D. Eddleman, Deputy Chief of Staff for Plans, will have staff supervision over the Offices of the Chief of Psychological Warfare, Chief of Civil Affairs and Military Government, and Chief of Military History. He is now designated Deputy Chief of Staff for Military Operations.

Lieutenant General W. L. Weible, Deputy Chief of Staff for Operations and Administration, will be designated Deputy Chief of Staff for Personnel, and will have staff supervision over the Offices of The Adjutant General, the Chief of Chaplains, the Chief of Information and Education, and the Provost Marshal General.

The functions of the Deputy Chief of Staff for Logistics, Lieutenant General C. B. Magruder, remain unchanged, with the Technical Services continuing to report to the Chief of Staff through that office.

The functions of the Comptroller of the Army, Lieutenant General L. L. Williams, remain unchanged, with the Chief of Finance continuing to report through that office.

The Chief of Research and Development, Lieutenant General James M. Gavin, is maintained at the Deputy Chief of Staff level.

This reorganization does not affect the offices reporting to, or the channels of communication existing in, the offices of the Secretary of the Army.

Individuals improve inherent leadership traits on The Infantry School

Leaders Reaction Course

Captain James M. Lee

IN ITS constant quest for means to make its leaders the finest in the world, the Army recognizes that two ingredients are indispensable—military knowledge and leadership.

The first ingredient can be imparted by test, lectures, demonstrations; but leadership capabilities cannot be lifted from a book. Indeed, to say that a leader must possess leadership is something like saying that a charming person must possess charm, or a tactful one tact. All are traits which are difficult enough to define, let alone to teach.

Leadership, like the pattern of traits that go to make up an individual's personality, is the result of all experiences since birth, plus natural abilities. The man with the desire to lead can become a better leader through evaluating his own leadership traits and then taking steps to improve them.

At The Infantry School, Fort Benning, Georgia, a Leaders Reaction Course has been introduced to enable the prospective leader to evaluate his leadership traits.

The course was not originated at The Infantry School. Rather it is an adaptation of a reaction test employed by the Air University, which in turn derived the idea from the British, who originally got it from the German Army when their forces occupied the defeated Reich in 1945.

But the Germans, the British and the Air University all utilize the tests as a means of leader *selection*, whereas The Infantry School employs the course as a means of leader *development*.

PHYSICALLY the course is a simple appearing wooden structure about 60 yards long, with a boardwalk eight feet high running down the center. There are five compartments, each about 30 by 25 feet on each side of the boardwalk and one at each end. In each of these twelve cubicles is equipment or material for a problem that must be solved.

The entire structure was built by Engineer troops at Fort Benning at a total cost of about $2,800—a small cost indeed for the enormous results that have already accrued since the course was placed in operation in June 1954.

All Basic Infantry Officer, Officer Candidate and Noncommissioned Officer Classes in attendance at The Infantry School go through the course. Each class is organized into 12 groups of 12 students. Each of these groups runs the course under the watchful eye of an ex-

CAPTAIN JAMES M. LEE, Infantry, is a member of the Leadership Committee of The Infantry School, Fort Benning, Georgia.

perienced rater. Obviously the most vital requisite for successful operation of the course is a thoroughly qualified rater who observes the students in action, determines in what areas each student is weak, and offers ways to remedy those weaknesses.

BEFORE tackling the course, the entire class receives an indoctrination talk emphasizing the object of the course. At this time the men are told that they will be rated on certain leadership traits that they display or fail to display as they solve each of the problems. These ratings are subsequently used as a guide in counseling periods by the rating officers; they are not incorporated in the final grade from the School.

At the command "Raters take charge," each rating officer executes a salute and faces about to take command of his particular group. He divides each group of twelve into two teams, and gives each member a numbered bib to strap on. He then explains the course in further detail.

Portions of each obstacle are painted red—these are off limits and cannot be touched by a piece of equipment or a portion of a team member's body. Fouls are penalized—by the loss of an item of equipment, by eliminating a team member, or by "immobilization" of a team member's arm or leg.

Each task is initiated by a single reading of a situation. Members may ask questions before starting work but not after the allotted time has begun. One team works one problem while the other acts as observers; the teams alternate so that each one goes through six obstacles in the four hours devoted to the course.

The observing team is not allowed to offer advice to the working team—but they are expected to promote enthusiasm by shouting encouragement. Groups rotate from task to task "on the double" to the accompaniment of aggressive war whoops.

HERE is how one rater, Captain Weber, introduced the problem to a group at one of the stations:

"You constitute a six-man raiding party operating behind enemy lines. You have come to a series of high tension power lines stretched across your path of advance as a result of artillery fire. The obstacle is approximately six feet high and six feet across. You cannot go around it.

"The pole that originally supported the wires still stands and is half way across the obstacle. You will find several poles and planks in the area. Your task is to get one of your party who has been wounded, and all team members, across the obstacle. This 100-pound dummy represents the wounded man. In order to avoid enemy detection, you must be across in not more than 15 minutes."

One of the officers, Lieutenant Fred Johnson, rubbed his chin. "Frankly," he told himself, "I don't have the slightest idea how to approach this thing." Others appeared to be in a similar quandry.

For a minute, the group was immobilized for lack of an idea. Finally, Lieutenant Jim Edwards, a college classmate of Johnson's, spoke in a firm voice, "Let's bring three of those long planks over here and build them into a tri-

angle." The others semed eager to follow Edwards and responded to his commands quickly.

"I plan to place a long pole on this triangle and rest it against the telephone pole. Then, one of you climb up the pole and I'll tell you what to do from that point."

Johnson felt better. His team was a going concern now. At least he was taking a part in meeting the challenge. He volunteered to climb the pole. When he got to the telephone pole he found himself looking down, from a height of ten feet, at Jim for further orders. He had always admired Jim, but never more than now. He noticed, too, that the others were looking to Jim for leadership.

"Okay, Fred," Jim shouted, "I want you to jump down to the other side. We are going to throw some boards over to you."

Johnson looked down. Across the wire obstacle he noticed a wooden fence about four feet high, running parallel to and about two feet from the power lines. His footing, where the horizontal pole rested against the telephone pole, was extremely unsteady. The slightest slip would cause him to fall hard on that fence and possibly hurt himself. He heard his team members and the observers shouting words of encouragement. All eyes were on him.

AS HE carefully maneuvered his body into a jumping position, he looked down to Captain Weber, who he thought might consider the jump too dangerous to attempt. Captain Weber was looking directly at him with no change in his steady gaze. Johnson thought he saw, in the captain's expression, confidence that he would jump.

"It's all up to me," Johnson said between gritted teeth, "and here goes!"

His legs straightened, his body flew upward and plummeted earthward. When his feet hit the ground squarely, he knew he had cleared the fence. He body-rolled and sprang to his feet amid a chorus of cheers from his buddies.

Johnson silently congratulated himself. "Come on gang," he yelled to the others. "Get those boards over here!"

Edwards continued to give impetus to the operation. By positioning boards and poles properly, the team succeeded in devising an arch-like structure over the wire obstacle. They were preparing to carry the wounded man across their bridge when a voice boomed over the loud speaker, "Cease work! All teams replace equipment to the starting position."

Johnson and the others were disappointed. It had been quite a struggle to have gotten as far as they did, only to be stopped with the solution in sight.

ALL pitched in to get the equipment moved back to the starting line. Captain Weber told both groups to gather around him at the observers' bench for the task critique.

"Well, you didn't succeed," were his first words. "But don't let it worry you. The first group has a lot of what it takes for success, and as we move along in the course you will get better progressively."

"What are your comments on this problem, Number 8?" Captain Weber asked a member of the observer team.

"Well, sir," replied the wearer of

the bib marked 8, "if it had been me doing it, I would have placed that long board in a different direction. They would have had better balance that way."

"Possibly so," replied the captain "Are there any other observations from the observer group?"

Number 10 raised his hand. "Sir, it appeared to me that the group didn't devise a well thought-out plan, one that was understood by the group before they jumped into the problem with both feet. It seemed to me that once they got started it was a 'hit or miss' proposition."

"A good observation," the captain agreed, as he turned the student's comment into a teaching point. "Thinking before acting is a technique of command that you should learn well before commanding men. Prior planning helps you avoid unforeseen problems. A former commander of mine taught me a catch phrase which I have never forgotten. It is *PPPPP—Prior Planning Prevents Poor Performance.*

"However, everything has its extremes. Some leaders err in thinking too hastily. Others deliberate too long. Both extremes are dangerous. There is a happy medium somewhere in between. The best way is—make the plan sound, and make it timely.

"Have a good idea of what you are going to do before you start, and make sure that all know the plan. This will allow the others to exercise individual initiative in getting the job done, should anything happen to the leader."

The three minutes allowed for the task critique had expired. A voice blared, "All right now, let's everybody rotate to the next task."

CAPTAIN Weber had recorded his impressions of the six working men, using the rater's form. Across the top of this form are listed six leadership traits—decisiveness, judgment, enthusiasm, tact, initiative, and cooperation.

In a vertical column at the left of the form, he jotted down the numbers identifying each student. As he observed them, he rated under the various headings, using a scale of 1-high, 2-medium and 3-low.

Obviously, he was not able to give a rating to each student on each of the traits at any one task. But with six forms in use during the four hour test, sufficient ratings are amassed on each individual to insure a good picture of each personality.

As a general rule, the rating officer does not appoint a leader for the first task. He may let the "law of the jungle" take its course, and usually some man or men emerge to take charge while others cooperate or hang back according to their natural tendencies.

By the time the first task is completed the rater has the six students roughly categorized into strong, medium, and weak groups. This information helps him in appointing leaders for the remaining tasks. He does not necessarily appoint those who appear strongest as leaders since he is fairly sure of their capabilities. Rather, he tries to learn more about those of the middle and weak categories. Perhaps they fail to come forward for a variety of reasons—unsureness, natural reserve, downright shyness, or any one of many other reasons.

Although it is not listed on the form, displays of courage or other outstanding traits are noted in the

"remarks" column when applicable.

FOLLOWING each task, the observer group is called on for remarks or criticisms. The rater then gives a brief talk on the various points noted. Thus each critique actually is a capsule lesson in leadership, with the rater utilizing the tasks just completed as his example. As in Captain Weber's comment, he supports his points with stories from his own experience, or those of others.

Included in these brief talks are discussions of the paramount importance of the leader; how everything must revolve about him; how he must be the initiator of any action and must give impetus to it until the job is completed.

The rater points out that the leader must assign each subordinate a specific part to play in any endeavor and then coordinate the action of the many to reach the common goal. He tactfully notes, for instance, when one appointed leader may have gotten himself too involved in the task, resulting in loss of control. He emphasizes that the leader must keep himself detached from the problem to the point where he can see the entire action, and can interject guidance when and where it is needed.

BY THE TIME the twelve stations are completed, the rater has had an opportunity to observe each man six times in problems that call for the exercise of leadership. Thus, the rater identifies strong and weak traits in each of the twelve students under his surveillance. This information forms the basis for the individual counselling period which follows on the next day.

Meanwhile, too, the students have evaluated themselves. They have learned something about their capabilities, and have confirmed information and impressions gained in previous self appraisals. This information also will be drawn out by the rater in the counselling period. Most important, each student has been induced to think about himself in terms of his leadership effectiveness. In addition the students have gained valuable lessons in command techniques by the best possible method — practical work.

In preparing for the counselling period, the rater consolidates on one sheet all information from his forms. He now can tell at a glance how each individual rates. He then writes a brief word picture of each student which crystallizes what he will say to each man.

AT THE counselling session, the rater puts the student at his ease. He usually elicits some of the man's background, schooling, interests. This helps materially in pointing up the results of the course.

As an example, a knowledge of the background experience of the student may show more clearly that lack of confidence resulted from previous limited experience in working with others or acting in any sort of supervisory capacity. Or the reverse may be true.

In any event, the rater reviews the results of observations made and the ratings given under each of the six headings—and of course anything else that may appear pertinent.

He points out to the student that while each individual possesses certain strengths or weaknesses which

only he can strengthen or develop, yet it is possible to learn from others the various techniques that make successful leaders.

These include manner or bearing—the ability to give clear, concise orders, communicating ideas in such a way that thoughts are unmistakably clear. It also includes knowledge of the job in hand so that others have confidence in one's decisions or line of attack on the problem. Throughout, the rater tries to outline practical ways and means whereby each individual may develop to the fullest his own inherent leadership traits.

IN TODAY'S increasingly complex warfare, it is vital to commanders that units down to squad level can operate individually in the field, performing ever more important and complicated actions. In this, and indeed in every aspect of Army operations, leadership becomes of increasingly great importance. The Leaders Reaction Course is proving its practical worth in helping infantrymen develop their potentialities as leaders of the future.

Your Date with History

A Calendar of Army Anniversaries

2 Mar 1833 . . . First constabulary squadron (First Cavalry) constituted as the Regiment of Dragoons, the oldest cavalry unit of the United States Army.

3 Mar 1791 . . . First Infantry Regiment constituted as Second Infantry Regiment, second oldest regiment in Regular Army.

1911 . . . Dental Corps established.

6 Mar 1836 . . . Fall of the Alamo. Some 187 Americans commanded by Colonel William B. Travis and including James Bowie and Davie Crockett killed.

1845 . . . General Winfield Scott for first time ordered uniform regulations of instruction for Regular Army and militia.

7 Mar 1945 . . . 9th Armored Division seized Ludendorf Bridge across Rhine River at Remagen.

9 Mar 1942 . . . Antiaircraft Artillery School established.

1916 . . . Pancho Villa's Mexican raiders attacked Columbus, New Mexico. This raid led to General Pershing's Punitive Expedition into Mexico.

10 Mar 1945 . . . United States Army Forces landed on Mindanao.

12 Mar 1943 . . . Services of Supply became Army Service Forces.

16 Mar 1802 . . . United States Military Academy founded.

1942 . . . United States Army units landed in Australia.

23 Mar 1945 . . . Third Army crossed Rhine.

24 Mar 1943 . . . Judge Advocate General's School opened.

27 Mar 1821 . . . Blue specified as national color for Army uniforms.

28 Mar 1812 . . . First legal recognition of an actual supply staff for the Army provided by creation of a Quartermaster's Department.

29 Mar 1847 . . . Veracruz fell to General Winfield Scott in Mexican War.

DUKWs and Drakes become serious business when the Ordnance Corps sets about designing

New Amphibious Trucks

Alfred C. Joy

FROM THE siege of Troy to the Inchon landings, amphibious operations have been probably the riskiest, most difficult accomplishments in warfare. They have been especially risky and difficult in getting materiel ashore. Men and animals could always make their own way to shelter—but materiel had to be handled from ship to landing craft, then unloaded and hand-carried or once more loaded into prime movers.

Both landing craft and vehicles were vulnerable to hostile fire while on the beach. And landing craft often were stranded by retreating tides, to extend the period of such vulnerability.

Some type of amphibian craft that could take on cargo from a ship, bring it through seas to the beach, and then proceed to shelter as a land vehicle, appeared early to be a vital need. And with application of the internal combustion engine for transportation, the development of such a dual purpose vehicle became possible.

Although tracked amphibious vehicles possess superior mobility over soft terrain, track life imposes a limitation upon their land operation. Accordingly amphibious trucks have lately been the objects of intensive research and development by the Ordnance Corps. Currently, work is progressing on three models —the Superduck, the Gull and a Drake.

Generally included in any description of the Army's amphibious "family" is still another vehicle—the 100-ton BARC. Already developed by the Transportation Corps and undergoing field tests, this largest member of the Army's amphibious fleet is capable of carrying a 60-ton payload from ship to shore, then moving inland on its 10-foot high tires.

AS EARLY as 1941, at the suggestion of the Quartermaster Corps, conversion of the standard Jeep into an amphibious vehicle came under study. Pilot models known as the "Seep" were produced, paving the way for production of larger trucks that were more widely used. Some of the Seep principles, such as the waterproof ignition system, are now a basic requirement in all military vehicles.

Engineering and experimental work on the DUKW began on 24 April 1942. Just thirty-eight days later a prototype rolled out the door, ready for road test. This development time established a

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record that may never be beaten. Experience gained during the development of the amphibious Jeep, plus enthusiastic teamwork by engineering and experimental departments of the contractor, resulted in an initial design which was placed in production with very little modification.

Incidentally the term DUKW was not chosen because of its applicability but evolved through a set of circumstances which, probably once in a million, fitted the situation. The D represented the series of trucks on which work was being done in 1942; the U happened to be the letter representing conversion of this model to amphibious design; and the KW indicated all-wheel drive and wheelbase.

At any rate the name happened to fit, and the first brochures describing the new vehicle bore a blue and white cover with a figure of the familiar Donald Duck, by special permission of his creator, Walt Disney. Since then the names of newer and larger models of course have followed—Superduck, Gull, and Drake.

Although the new amphibian had actually been produced with no one service having requested it, a few were shipped to various theaters. There they soon proved their value and accelerated requirements were quick to follow. The vehicles played important roles in many invasions as Truck, Amphibious, 2½-ton, 6x6, Model 353 DUKW.

Besides being used for amphibious landings of men and supplies, these vehicles have been used in combination to float tanks; or with a platform between for loads too heavy for a single vehicle; or for over-the-beach transportation of P38 or similar aircraft. They also have been pressed into use as pontons, amphibious trailers and rocket launchers.

Most of those uses were experimental or expediencies, however, since other more suitable equipment has been provided to perform such tasks. Its principal use is as a basic vehicle in over-the-beach resupply or in support of assault landings.

AFTER the end of World War II little thought was devoted to amphibious truck development although consideration was given to various shortcomings—notably rapid hull deterioration due to corrosion in storage—and methods of remedying them. With the Korean outbreak, interest naturally was stimulated in a better amphibious truck which would eliminate deficiencies of the DUKW.

By the end of 1950 operational requirements and military characteristics had been established for a larger, faster amphibious truck in the 5-ton 6 by 6 category. It was then thought that the old 2½-ton DUKW would merely be modernized to become a standby model capable of swift production in case of need.

Experiments were begun with 5-ton trucks using fiberglass reinforced plastics to overcome the corrosion problem. However, within two years an exhaustive survey by the Transportation Corps showed that the 2½-ton was still needed. Production requirements for this type were reaffirmed. At the same time it was decided to increase the 5-ton truck to an 8-ton, 8 by 8. Although requirement for even greater payload capacity was indicated, Ordnance Corps felt that

a truck approximately 10 feet wide by 42 feet long was about the limit for reasonable roadability.

At present, prototypes of the 5-ton trucks (known as the Gull) with fiberglass reinforced plastic hulls, are being tested at Aberdeen Proving Ground for evaluation of hull material only. Work on the 5-ton vehicle with metal hull was converted into the 8-ton configuration, now known as the Drake. This has resulted in two truck developments under test or design—the 2½-ton Superduck and the 8-ton Drake.

THE SUPERDUCK hull contains only enough frame structure to support and space properly the units of power train and other components, thus providing more cargo space in a lighter frame than the original models. A commercial torque converter also has been found more suitable for marine operation than the standard transmission of the 2½-ton truck.

High flotation tires with flexible casings replace the standard 11.00 by 20 military truck tires, to give superior performance over soft terrain. An improved central tire inflation-deflation system has been provided for low-pressure operation (10 to 12 pounds) which reduces the time previously required to decrease or increase pressure. Air is supplied by the brake system compressor. A diversion valve insures that the brake system will have full pressure at all times, before air is supplied for the tires.

The cargo compartment of the new Superduck has 316 cubic feet capacity as compared with the 196 cubic feet in the older DUKW. Freeboard is 31½ inches; fuel capacity is 120 gallons.

Because quick steering response is important in surf operation, tests of several types of rudder control now appear to show that the angulating—that is, steerable—propeller appears most adaptable to present hull design. In this installation, a type of universal joint is mounted between the outboard end of the shaft and the propeller; thus the propeller can be swung about thirty degrees either side of amidship, to provide an immediate and direct thrust in the desired direction.

Although rated at 2½-tons, load capacity of an amphibious vehicle is somewhat difficult to express since its on-land tire capacity is the limiting factor while its in-water carrying capacity is greater. However, conditions of wave height and type govern in water. The land payload of the Superduck is about 8,000 pounds; successful tests have been made in water with a 14,500 pound load in spilling surf as high as 18 feet.

During one test the Superduck was operated in plunging surf up to 25 feet high with a 9,000 pound load—an obvious over-test. The vehicle made four trips beyond the surf zone and back, but on the fifth trip a plunging breaker overtook the craft and swamped it. It floated shoreward wheels up, lodged on a sandbar, and later was recovered.

Such tests show that the Superduck qualifies under the requirements of the basic Military Characteristics—it is capable of transporting more than its rated marine payload; landing operations under severe conditions are possible in emergencies; and the marine payload rating is a variable.



The Superduck, an improved version of the 2½-ton DUKW, has a steel hull and cab roof of reinforced plastic.

THE DRAKE is designed for use in over-the-beach resupply where greater bulk must be handled. It can, for instance, transport artillery materiel in the medium howitzer category.

Power for the Drake's marine propulsion is supplied by twin power trains of the Superduck with arrangements for operation of either propeller for steering. Use of angulating propellers also is under consideration. Many other components of the Superduck will be utilized to

With fiberglass reinforced plastic hull molded in one piece to provide smooth contours, the 5-ton Gull is used now only for experiments.



facilitate supply. Prototypes are under construction with aluminum hulls.

The 8 by 8 configuration is obtained through use of three Superduck axles plus duplicate front unit, so spaced that each axle bears a uniform portion of the gross weight. Parallel power steering is supplied to the front axles.

Tires are 14.75 by 20 high-flotation single all around, interchangeable with standard military 14.00 by 20 tires. Power is available to all of the eight wheels and land operation may be powered by either or both engines.

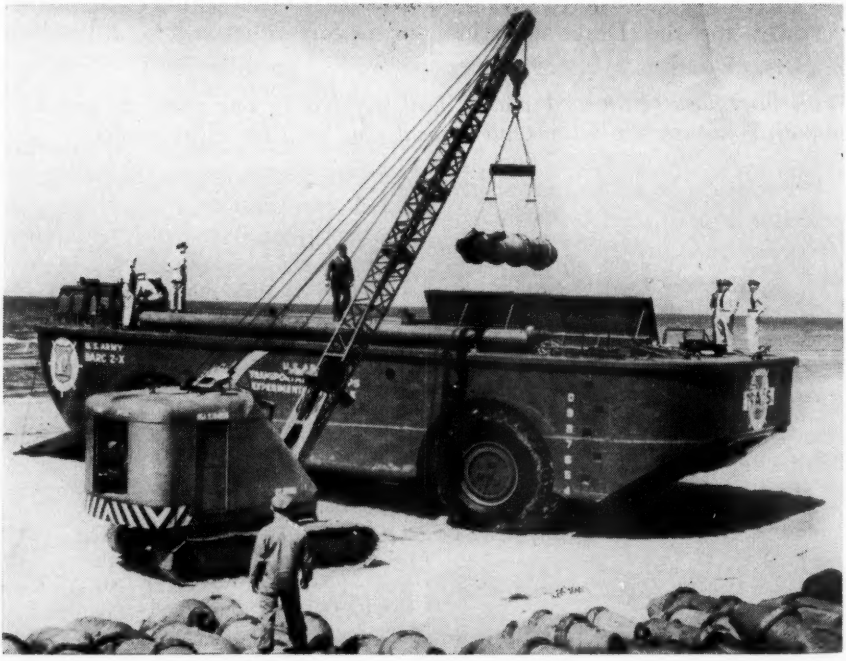
Conventional leaf springs are replaced by a type of air suspension which provides automatic spring rate control for varying loads. This makes it possible for the wheels to be mounted so as to provide some retraction when afloat, to reduce wheel drag.

Cargo space, floor to coaming, is 680 cubic feet. Freeboard with a 16,000 pound load, surface to deck, is 32 inches, or 42 inches unladen.

ALTHOUGH the Superduck and Drake models now undergoing tests represent improvements over previous models, many problems still are under investigation. One of the most important is water speed. It would be desirable to double or triple present speeds. The problem, however, is complicated by two factors—speed through open sea and speed through surf.

Simply adding more horsepower is not the answer since maximum speed in conventional hulls is

Largest member of the Army's amphibious "family," the BARC can carry a 60-ton payload from ship to shore, then move inland on its huge tires.



limited by length/width ratio and other basic factors integral to the design.

Speed improvement from ship to surf—frequently a matter of several miles—may be considered in three possible avenues of approach. These include, first, radical design of hull including complete wheel retraction; second, application of hydrofoils or similar devices to a reasonable conventional design; third, offshore transport of a more conventional type of amphibious truck by auxiliary means.

Costs of the first method are high; therefore, at present, emphasis is being placed on the second and third methods. Investigation also is being pursued along other lines.

Operation through the surf presents special problems. Outbound speed is necessarily limited by the force of the breakers. However, navigation outward is simple compared to that involved when coming in with the waves.

The ideal method is to "surfboard" in on the back of a wave; otherwise care must be taken either to let the wave break far enough astern to ride in on the resulting white water, or to be in it before it starts to plunge. Outrunning the breaker is the safer course. But waves approach shore at speeds up to 15 miles an hour and a heavy plunging wave breaking into the craft may be disastrous. Water speed in excess of 15 miles per hour therefore should be a built-in feature of an amphibious truck.

Still other problems that are being studied include greater protection against hull corrosion by plastics or other means; satisfactory ramps, preferably power operated; self-bailing capability; a more satisfactory bilge pumping system; and even simpler and quicker tire deflation for operating in soft terrain.

WHILE all of these may be overcome, the cost factor must be kept down to the point where the military service can afford to buy the finished product. In general, the price per pound of an amphibious truck should not exceed twice the cost of its equivalent standard tactical truck. Costs of course can be reduced by improving the usefulness of the amphibian, thus broadening its field of application and in turn increasing the volume of procurement.

Experiments, research and development now must strive to produce the most satisfactory vehicle, both from standpoints of speed and capability, that American ingenuity can devise.

A SPECIAL TRAILER has been developed by the Corps of Engineers' Research and Development Laboratories, Fort Belvoir, Virginia, to transport and launch a complete bay of the Army's new division floating bridge. Towed by a standard 5-ton bridge truck, the trailer has a tilting bed with rollers which facilitate the launching of an assembled bay into the water. Construction of complete bays on trailers in a rear assembly area eliminates the need for a crane at the site and speeds erection at rates never before attained.



Cargo 'Round the Bend By Overland Conveyor

Lieutenant Norman L. Dobyns

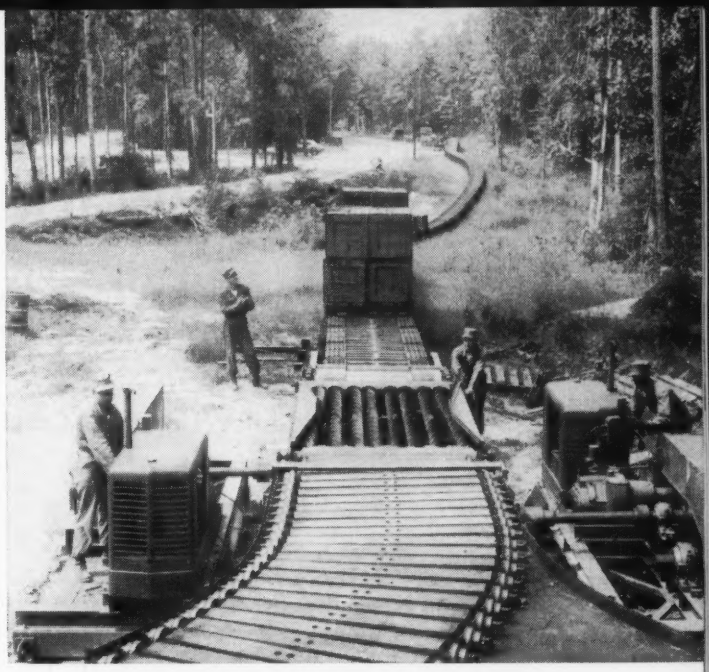
EXHAUSTIVE TESTS of an overland conveyor system for transporting military cargo faster, more economically and with less manpower are being conducted by the U.S. Army Transportation Corps Research and Development Command at Fort Eustis, Va.

The new carrier is designed to expedite movement of cargo from unloading docks to storage or dispersal points located from one to ten miles inland. A wide variety of equipment and supplies can be transported—drums of fuel, ammunition, engines, food, medical supplies, and clothing—in palletized unit loads as great as 3,000 pounds each. Maximum capacity is 270 tons per hour.

The system's mainline and branch line conveyors are so arranged that cargo can be switched from one to the other while in transit. Loads are conveyed on steel carriers mounted on small wheels which run on tracks. These carriers are joined together to form a continuous line resembling a caterpillar track.

Built-in sections that can be easily stored or transported and set up quickly in the field, the conveyor will operate over rough terrain and up grades as steep as 27 percent,

LIEUTENANT NORMAN L. DOBYNS, Transportation Corps, is on duty in the Office of the Chief of Transportation, Department of the Army.



Through darkness and fog, up grades and around bends, the overland conveyor hauls cargo without interruption.

as compared with a maximum grade of about 9 percent for trucks and 3 percent for narrow gauge railways. It can follow a straight or a curved route to avoid obstacles.

Among the advantages of the overland conveyor over other methods of moving cargo: It can operate at full efficiency despite fog, dust, darkness; moreover it runs automatically, hence requires no drivers and is less affected by slowdown and stoppages caused by human fatigue. It requires less manpower and costs less to operate than other types of surface transportation. It is easily camouflaged, thus reducing vulnerability to attack. Finally, the system does not require back haul, thus eliminating confusion of two-way traffic.

In actual operation, it has been found that the system handles loads gently, causes less damage to cargo. Setting it up requires little site preparation. One pass of a bulldozer is generally enough to clear a path.

The 1,000-foot prototype now undergoing tests was developed and built for the Transportation Corps by Hewitt-Robins, Inc., Stamford, Conn.

DURING World War II and the Korean conflict, Transportation Corps truck units performed their supply mission alongside combat units, often operating on front lines within range of enemy artillery and subject to attack by enemy infiltrating troops. Until recently, however, truckers received no recognition for operating under front line conditions.

Begining last fall, the officer and noncommissioned truckers operating in direct support of combat units in Europe were authorized to wear the Combat Leaders Identification. Under provisions of SR 600–60–1, Headquarters, U. S. Army Europe has granted authority to the Commanding General, Seventh Army to recognize this combat support function of Transportation Corps units. Thirteen TC units have been designated "Combat Support Units" by General Order.

SHAPE—Bulwark of the Free World

Brigadier Lionel L. Cross
British Army

ABOUT TEN MILES west of Paris, in a small corner of what was once a hunting preserve, is situated one of the most important nerve centers of the military forces of the Free World. Here, in a 650-foot long, one-story prefabricated building, is Supreme Headquarters Allied Powers Europe (SHAPE). Here an international, interservice military staff plans the defense of Western Europe from the North Cape of Norway to the eastern frontier of Turkey.

BRIGADIER LIONEL L. CROSS, British Army, is Chief of Public Information, Supreme Headquarters Allied Powers Europe.

In order to put SHAPE in proper perspective and to appreciate exactly how it fits into the defense of the Free World, it is necessary to consider briefly something of its history and its relationship to other organizations.

In 1949 the North Atlantic Treaty



At NATO ceremonies, soldiers of allied nations form an international array.



Flags of member nations are displayed at Supreme Headquarters Allied Powers Europe.

was signed by twelve sovereign nations—Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States. The Treaty created the North Atlantic Treaty Organization (NATO), which today has its Headquarters in Paris, to provide effective collective security for the signatories. Under terms of the Treaty an attack on one NATO nation is considered an attack on all.

In 1952 Greece and Turkey joined the Alliance. In May 1955 West Germany became the fifteenth member of NATO.

SHAPE is the NATO Command in Europe. NATO has two other Commanders on an equal level with the Supreme Allied Commander Europe (SACEUR)—namely, SACLANT, the Supreme Allied Commander for the Atlantic, and CINC CHANNEL, the Commander in Chief for the Channel and southern North Sea.

Oldest of the three Commands, SHAPE is a healthy, thriving youngster, nearly five years operational. It was conceived in December 1950 when the North Atlantic Council, meeting in Brussels, ordered immediate organization in Europe of an integrated military force under centralized control. At the same time the Council announced the appointment of General of the Army Dwight D. Eisenhower as Supreme Allied Commander Europe.

The mission assigned to SHAPE was to provide an effective shield between Western Europe and the threatening forces of the East. The new command was to have a dual purpose—to be sufficiently strong to deter aggression, but if aggression occurred, to stand prepared to repel an assault.

The command was made responsible to the NATO Council through the Military Committee. That Committee, composed of the Chiefs of

Staff of all NATO signatories, operates more directly through its executive agency, the Standing Group, consisting of representatives of France, the United Kingdom, and the United States. The Military Committee meets usually in Paris and the Standing Group has headquarters in Washington.

Coincident with General Eisenhower's arrival in France in January 1951, a small staff headed by General Alfred M. Gruenther, present SACEUR, began laying the groundwork. Gathering in temporary offices in a Paris hotel, they commenced a twofold task—preparation of an emergency plan to meet Communist aggression, and at the same time development of a long-range plan based upon the concept that strong, ready forces would prevent a conflict.

THE NEW headquarters was founded on the principle of an integrated staff. The different nationalities were to serve together as an international body and to solve their problems along international lines. The staff and the various national governments were to maintain liaison through National Military Representatives, accredited to SHAPE and in direct communication with their respective ministries of defense. French and English were accepted as the SHAPE official languages just as they are the official languages of NATO itself.

In April 1951 SHAPE became operational. The first task—establishing a defense line in front of the Iron Curtain—was vital. Urgent plans were drawn up, calling for establishment of subordinate allied commands with integrated headquarters in the three principal geographical areas of Western Europe—North, Center, and South. This network of subordinate allied commands was augmented in 1953 by the inclusion of the Mediterranean Command.

CENTRAL COMMAND

ON 2 APRIL 1951, the date that SHAPE officially became operational, General Eisenhower announced the establishment in the Center of three co-equal commands —Allied Land Forces Central Europe, Allied Air Forces Central Europe, and Flag Officer Central Europe. These were eventually unified in August 1953 under one Central Command headed by Marshal Alphonse P. Juin of France, with headquarters at Fontainebleau.

This was a logical move for two reasons—it was in the center that the bulk of existing allied forces were concentrated; and the region was judged the most likely location for a sudden Soviet attack. France, the United Kingdom, and the United States had occupation forces there, and there were also units from the Benelux countries. Just prior to the organization of SHAPE, but more comprehensively afterwards, these units were regrouped, retrained and re-equipped for the more pressing role of providing an immediate protective screen opposite the Iron Curtain.

The process of welding the various units into an organized whole began. Problems of adequate communications, techniques of supply, joint operations—among other aspects of unity and standardization —were persistently reviewed to improve mutual interdependence and coordinated action.

These forces have since been built up to the point where, if called upon, they could give a good account of themselves, but they are not yet adequate to halt the full impact of an all-out attack by an aggressor. Now that the Federal Republic of Germany has become a member of NATO, a German contribution will be forthcoming although it may be fully three to four years before German forces become effective.

NORTHERN COMMAND

TWO MONTHS after the activation of the Central Command, the Northern Command was established with headquarters in Oslo, Norway. Under the leadership, first of Admiral Sir Patrick Brind, Royal Navy, and later of General Sir Robert Mansergh, British Army, this command gradually developed to the point where General Gruenther, as Supreme Commander in mid-1953, could say that "The ability to defend the northern flank of NATO's defense system can no longer be questioned."

Defense of this area against major attack would, however, undoubtedly require the assistance of powerful naval and air forces from outside Norway and Denmark. Such external aid was envisioned by SHAPE planners and large scale international exercises have been held to test these plans. Some of these maneuvers have brought combined elements of SACEUR, SACLANT and CINC CHANNEL to bear upon the problem of supporting large forces overseas.

Meanwhile, with outside material assistance, both Norway and Denmark have been rebuilding their military establishments.

SOUTHERN COMMAND

BECAUSE OF complex political and geographical factors, Southern Command took longer to set up, but it was urgently required to protect the southern flank with effective land, air, and naval forces. To organize this command, Admiral Robert B. Carney, USN, was appointed Commander-in-Chief, Allied Forces Southern Europe, in June 1951, and served in this capacity until July 1953 when he was succeeded by Admiral William M. Fechteler, USN.

Extensive land, sea and air exercises have been held by Southern Command, with allied land and air forces holding separate maneuvers in addition to participating in the joint exercises.

Throughout this period the land forces in Southern Europe were steadily improving. The Italian Army and Air Force were virtually re-born and re-equipped. The problem of support troops remained only partly solved but under constant study. Here, as elsewhere, continued attention was given to the better training and support of reserve forces.

A major source of Southern Command's naval strength is the U.S. Sixth Fleet, which is based in the Mediterranean and is available to the Command.

In February 1952, Greece and Turkey became signatories to the North Atlantic Treaty, thus extending the southern defense area of NATO some 1,500 miles to the East and necessitating the combining of SHAPE forces in Italy with those of Greece and Turkey under overall command of the Commander-in-Chief, Allied Forces Southern Europe.

Both Greece and Turkey had been under direct Communist pressure and, in the case of Greece, in active combat against Communist infiltration. The two nations added to the forces of SACEUR more than 25 army divisions backed by relatively small but efficient air and sea forces. The addition of these forces called for the setting up of a new subcommand, Allied Land Forces Southeastern Europe, at Izmir, Turkey. This headquarters was opened in late summer, 1952.

MEDITERRANEAN COMMAND

NECESSITY for further expansion of naval protective and support forces in the Mediterranean led the NATO Council to decide at its December 1952 meeting in Paris to organize a separate Mediterranean Command under Admiral the Earl Mountbatten of Burma as Commander-in-Chief. The British Mediterranean Fleet, which had long guarded the vital lanes of this historic inland sea, was to be the nucleus of the new command. To it French, Italian, Turkish, United States and Greek naval units were earmarked for assignment in emergency.

Planning continued through the winter of 1952–53, and on 15 April 1953 the Mediterranean Command was officially set up at Malta. During September-October of that year the Mediterranean and Southern Commands combined to conduct Exercise Weldfast, the largest joint naval, land and air maneuver held up to that time by Allied Command Europe.

The vital nature of this Command becomes evident when one recalls the role played by Allied forces in the Mediterranean during World War II. Today, as then, the Mediterranean area can be a source of strength to the forces of freedom if properly defended, and a source of weakness if lost. Supremacy in the Mediterranean must be maintained if the land and air forces of Greece and Turkey in the east, and of Italy in the west, are to be given the logistic and tactical support essential to success. To the south also lie allies and air bases that might be threatened seriously if an enemy could make the Mediterranean untenable to allied forces.

This overall view of the size and geographical disposition of the SHAPE command is helpful in understanding the work of the Supreme Headquarters itself—the nerve center of the vast network of European defense.

WHAT SHAPE DOES

SUPREME Headquarters Allied Powers Europe has three primary functions—planning for its military forces in both peace and war, training those forces, and finally making recommendations to the NATO Council regarding them.

There have been three Supreme Commanders, and, faithful to the ideal that the Allied Command Europe is an Allied team with no nation predominating, all three have insisted that their staff consist of all nationalities intermingled, the only criterion being that appointments be held by those most fitted to fill them. A balance has been achieved in this respect which has worked without friction or national feeling. Moreover, for a headquarters of this level, the size of the staff has remained impressively small, numbering in the neighbor-

hood of 400 officers.

Two staff divisions have the greatest immediate impact on the fighting forces under SHAPE—the Organization and Training Division, and the Plans, Policy and Operations Division.

The first deals with the organization, mobilization, and training of all the forces assigned to or earmarked for the Allied Command Europe. It works under the close supervision of the Deputy Supreme Allied Commander, Field Marshal Montgomery, whose special task is to "forge the weapon." By means of training directives and continual inspections by the Deputy Supreme Commander and other members of the SHAPE staff, the different national contingents are being welded into a unified force. The goal is a common operating procedure and a level state of training throughout.

Continued emphasis on air power was indicated in mid-summer 1953 with the extension of the authority of SACEUR's Air Deputy and with the appointment of General Lauris Norstad, USAF, to that post. Shortly afterward General Gruenther said: "We consider that air power is the dominant factor in modern warfare." The build-up of the air arm has gained first priority.

The second staff organization—the Plans, Policy and Operations Division—prepares the overall defense plans of the entire Allied Command. Specifically, it determines how and where the Allied Forces would fight the battle, should it be forced on them. In the event of hostilities it is able immediately to assume the role of a war operations staff.

THE Logistics Division has had a difficult problem in insuring full coordination among all the NATO nations in the matter of supplying and transporting the Allied Forces. Before the formation of SHAPE the United States and British forces in Western Germany had been supplied through German ports. Food, ammunition, clothing and materiel needed to maintain these troops were moved to them along German rail and truck routes running parallel to the north-south line of demarcation between Russia and the West. These lines of communication were exposed to possible attack and rupture in event of war.

In order to insure the uninterrupted flow of materiel to the troops, arrangements have been made for the use of port facilities on the west coasts of Europe and the Low Countries. This required a heavy construction program of permanent installations—warehouses, storage depots, pipelines—as well as improvement of existing road, rail and port facilities, and the perfecting of radio, telephone and radar networks.

Initially, the allied air forces operated from airfields in occupied Germany too close to the Iron Curtain; in some instances bases were even situated forward of the combat ground troops. Under the infrastructure program, the Logistics Division has planned the construction of airfields located so as to enable the allied air forces, now being built up, to carry out their missions without being so vulnerable to a sudden enemy attack.

One of NATO's outstanding achievements has been the increase in the number of airfields. By early 1954, these numbered about 125. Additional facilities are planned

under an infrastructure program which visualizes a long-range expenditure of $700,000,000.

A MOST important factor in NATO defense is the ability to move formations from one national area to another without the attendant difficulties which have impeded coordinated efforts in past campaigns. In the first large-scale ground maneuvers held in autumn 1951, this was practiced to a limited extent and was carried out capably, though on a comparatively small scale. Later maneuvers have reflected faithfully SHAPE's efforts in this direction.

Much also has already been achieved, particularly with respect to the air forces. In the mobile warfare of today, it is a basic principle that armed forces should be flexible within themselves, and all the more so if they form part of an international command.

The SHAPE Signals Division, like the Logistics Division, hurdles national frontiers. Its network of telephone lines, wireless links and teletype system makes SHAPE a European nerve center unparalleled in history. Important as this is in peacetime, in war it is doubly so. Much of the success of modern campaigning depends upon quick and reliable communications.

As the Supreme Commander has often pointed out, the peoples of the North Atlantic Community have the right to be kept as fully informed as possible concerning the problems and affairs of their military security agency. In this endeavor, the Public Information Division maintains direct contact with all the major international information channels—press, radio, television, and pictorial. In addition, a constant stream of visitors from all parts of the world is given a word picture of SHAPE's aims.

ACCOMPLISHMENTS

NOBODY in SHAPE, from SACEUR on down, makes a claim for perfection or infallibility but the credit side of the ledger is impressive nonetheless. Consider something easily measurable like NATO air bases. In less than five years almost a ten-fold increase in numbers has been achieved. In addition, there is in being and in construction a thorough pipeline building program to insure that planes will not be grounded in time of emergency for lack of fuel.

SHAPE, moreover, has created a communications network which is infinitely superior to the horse-and-buggy system of signals previously existing. A complex of depots and dumps now furnish logistical support to NATO troops. In short, SHAPE is a going, thriving concern; its subordinate headquarters all have carefully conceived emergency plans and are prepared to put them into instant operation if and when necessary.

A good indication of what potential enemies think of SHAPE's effectiveness can be gleaned by the recent formation in Warsaw of an anti-NATO organization among the Soviet bloc. This may be considered a compliment to SHAPE.

Today, a major objective of the Soviet Union is to achieve the dissolution of NATO, and the Soviet bloc, too, is exerting every effort to that end. That fact can only be viewed as a monument to the effectiveness of the North Atlantic Treaty Organization.

Multilingual Typewriter



LANGUAGE no longer is a barrier to preparation of messages in totally unfamiliar foreign tongues, through employment of a typewriter-like device designed to utilize more than 50 foreign language type fonts. Durable and weight-saving, the machine will be incorporated in Army mobile psychological warfare printing units.

Following exhaustive research, the Army Quartermaster Research and Development Command working in conjunction with the Office of the Chief of Psychological Warfare now has produced a Coxhead Vari-typer which is simple to operate.

The message is written by a linguist in the language desired. He then substitutes appropriate numbers for the characters, with geometric markings to indicate punctuation. With the proper type font set into the machine, the operator—who need not be skilled in the language—merely strikes the keys according to the numerical sequence of the message.

When completed the typing resembles commercial printing. The typed message then is photographed, an offset plate is made, and printing is accomplished from this plate.

Development of interchangeable type fonts for languages in the Latin alphabet was relatively simple. The problem was more complicated with Hebrew, Arabic, and Indo-Chinese languages using Sanskrit, or Burmese, which requires 700 characters as compared with 26 in the English alphabet.

The new multilingual printing device also comes in a reverse carriage model which types from right to left, for Hebrew, Arabic, Persian, Urdu, and Pushtu.

Miniature Magnetron Tube

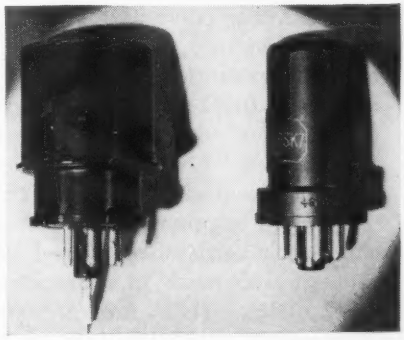
THE WORLD'S smallest continuous wave, self-contained magnetron tube—50 times more powerful than the tube it will replace—has been designed and constructed at the Signal Corps Engineering Laboratories, Fort Monmouth, N. J.

Key to the development of small mobile radar sets that can be carried by troops to warn against approaching tanks, the new tube is about the size of a golf ball and weighs only eight ounces. It is the same type tube—on a much smaller scale, of course—as those used in radar sets during World War II to pinpoint enemy ships and planes through fog and darkness.

Although many times more powerful than the Klystron tube it was designed to replace, the new magnetron tube uses far less filament battery power. It transmits on a frequency about 100 times higher than that used by FM broadcasting stations and operates from a plate supply of 450 to 500 volts and a heater supply of 6 volts.

In addition to its use in radar equipment, the new tube is also expected to be of military value in short-range field communications between advanced lines and rear echelons.

Resembling a standard-type receiving tube, the new magnetron tube will be produced under a Signal Corps contract by Microwave Associates, Incorporated, of Boston using Laboratory specifications.



The miniature Magnetron tube (left) compares in size to a standard receiving tube (right).

Records of 35 million individuals are on file at this

New Repository for Personnel Records

Colonel David H. Arp

THE NEWLY constructed Department of Defense Military Personnel Records Center at St. Louis, Mo., will maintain and service personnel records of more than 35 million demobilized servicemen, including all Army and Air Force personnel separated since 1912 and Navy and Marine Corps enlisted personnel separated since 1885.

Streamlined facilities at the new location will enable the Department of Defense to furnish more efficient service to former members of the Armed Forces and their families who seek information for substantiation of benefit claims. Maintenance of records at this central location will facilitate processing of the many inquiries received daily by the Army, Navy and Air Force, from individuals, firms, the Veterans Administration, other Federal, state, and local agencies, and various veterans' organizations.

The new building—a 6-story structure located on a 44-acre tract —required approximately 70 thousand cubic yards of reinforced concrete and 5 acres of glass in its construction. Its 1¼ million feet of floor space makes it one of the twenty largest buildings in the world. Virtually a self-contained unit, it has its own cafeteria and dispensary.

Following initial occupancy of the new structure in October 1955, the Military Personnel Records Center, (now redesignated the Army Records Center) which handles Army and Air Force records, was transferred from 4700 Goodfellow Boulevard, St. Louis 20, Mo., to the new location. The U. S. Naval Records Management Center at Garden City, Long Island, N. Y., also is to be moved to the St. Louis site.

THE NEW Center will be responsible for receipt, preservation, and administration of permanent and noncurrent military personnel records, including records of Army enlisted personnel who were completely separated from the service since 1 November 1912, and those who were released from active duty and transferred to the Reserve.

The Center also maintains records of Army officer personnel who served since 1 July 1917 and have been completely separated from military service, as well as data on Nurses and Army Field Clerks who served during World War I.

COLONEL DAVID H. ARP, Adjutant General's Corps, is Commanding Officer, Army Records Center, St. Louis, Mo.

Records of retired personnel, however, are not maintained in the Center. These are kept on file in The Adjutant General's Office, Department of the Army, Washington 25, D. C.

Records of Air Force officers and airmen who were completely separated from service after 26 September 1947 are maintained in the vast file rooms, as are those of Philippine Scouts, War Department civilians, Philippine Army, and guerrilla personnel who served in the Philippine Islands during World War II.

AMONG the data on file at the Center are unit personnel records of the Army dating from 1 November 1912. These include Muster Rolls, Sick Reports, Morning Reports, Passenger Lists, many of which are now being processed for microfilming.

Individual personnel records of former Army and Air Force personnel total approximately 21,525,500. Addition of Navy and Marine Corps records brings the number of records in the new Center to more than 35,000,000.

In accordance with policies established by each service and subject to a small charge for certain types of information furnished, former service personnel may write to the Army, Navy or Air Force element of the Department of Defense Military Personnel Records Center at 9700 Page Boulevard, St. Louis 14, Mo., to obtain essential information from their own files.

Certification of Service

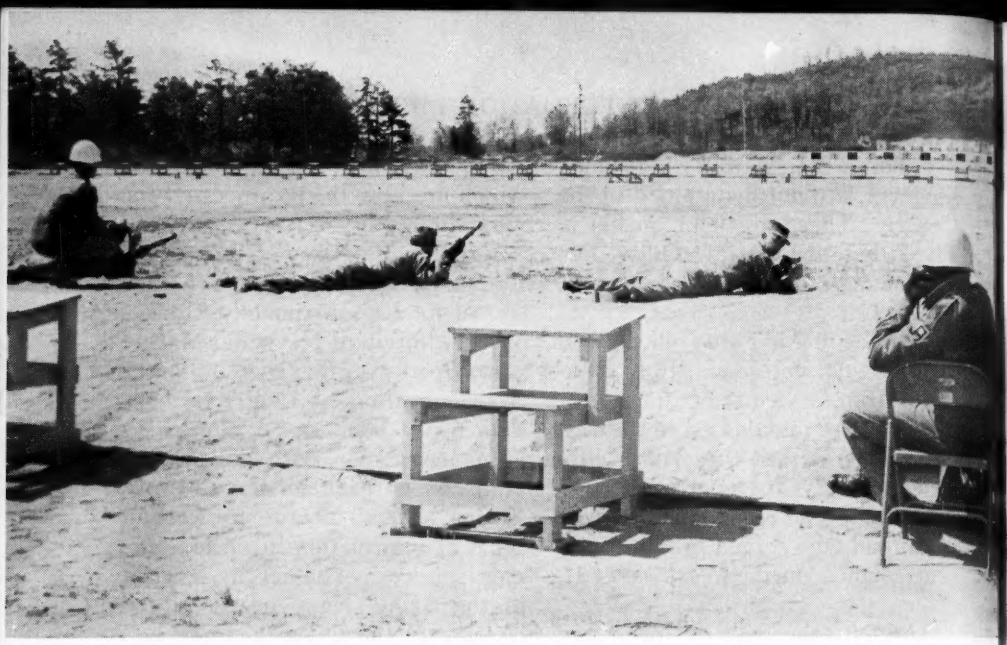
The Adjutant General's Office has been receiving an increasing number of requests for copies of Report of Separation or Statement of Service from enlisted personnel who, since 1 August 1952, have reenlisted the day following discharge. Usually such documents are necessary for obtaining eligibility certificates for home loan, state bonus or similar benefits.

Since implementation of the "carry-over" service record system on 1 August 1952, no report of separation (DD Form 214) is issued to Regular Army personnel upon discharge to reenlist. (Inducted personnel receive a DD Form 214.) Since the service record is retained in the field from one enlistment to another and only a partially completed reenlistment record is prepared for TAG 201 files, pertinent data is available in complete form only in field 201 files.

Personnel on active duty so affected and needing a certification of service for certain benefits, should apply to their commanding officer or personnel officer for a certificate setting forth the required data. Inquiries sent to The Adjutant General's Office will only be delayed inas much as they are indorsed to the commanding officer for issuance of the certificate.

The Veterans Administration has agreed to accept such certificates and most state bonus agencies have been made aware of the report of separation policy. Certificates may be prepared in the usual form and need not be sworn to or notarized. They need contain only pertinent items such as date(s) of entry, date(s) of, character of and reason for discharge, rank, organization, and signature of commanding officer or personnel officer.

In the case of state bonus applications, data on foreign service and time lost may also be necessary as many states pay on a per day basis. In rare cases where a certification is refused by the agency involved, this fact should be made known to The Adjutant General, Attn: AGPF–I.



Trophies, badges, medals replace old-time live turkeys as the Army stages a nationwide modern version of

A Royal American Shooting Match

Colonel Charles G. Rau

THE TERM "shooting match" has worked its way into the American language and traditions. It conjures up visions of frontiersmen firing at bobbing heads of live turkeys and betting on which eye they would hit at a hundred paces.

Historically, shooting matches were at once a sport and a training for defense. The American rifle matches of early times stemmed from an earlier tradition of shooting with the English longbow. In medieval England matches were mandatory and produced marksmen skilled with bow and arrow that brought about such notable victories as Crecy.

Although a near universal skill with musket and rifle was a vital necessity in settling a new country, practice with fire arms naturally tended to fall into disuse as the

COLONEL CHARLES G. RAU, General Staff, was Executive Officer, National Board for the Promotion of Rifle Practice, and Director of Civilian Marksmanship, Department of the Army, from July 1953 to September 1955.

country became settled and then industrialized.

However the tradition and popular belief persisted that every American was, by inheritance, a good rifle shot. Over-reliance on this faith in inherent ability as marksmen too often led to considerable loose thinking and false conclusions concerning the need for military training. Even down to World War II it was not uncommon to hear people dwell on the idea of millions of men "springing to arms" in the minuteman tradition to repel or conquer the Nation's enemies.

The Army, however, has always realized the need for spending time and money in training new generations of soldiers to shoot properly—and of course this is only one skill of many that must be mastered in today's complex Army.

EVEN WITH continual emphasis on increase of firepower through constantly improved weapons, good marksmanship remains a military necessity. Throwing out sprays of hot lead without proper aiming is wasteful of resources, imposes a strain on the logistics system, and produces inconclusive results in terms of enemy casualties.

Realizing this, the Department of the Army in the past two years has made tremendous strides toward reviving the ancient American tradition and sport of shooting, both among civilians and within the Army itself where marksmanship competitions now are classified as training.

Today on scores of ranges in cities all over the country, the crackle of rifle and pistol fire is heard as hundreds of civilian shooting clubs practice and stage modern shooting matches. True, the latest type of targets are supplied by the Army (as is much of the ammunition, and in many instances the rifles and other equipment as well) replacing live birds, but the old spirit of competition remains.

Today, too, throughout the Army more emphasis is being placed on marksmanship, both as training and as a sport. Military personnel stage matches, and also may join with civilians in competitions staged by the National Rifle Association, an organization with which the Army works closely.

THIS revived interest in marksmanship both in the Army and throughout the civilian population has been fostered largely by revitalization of the National Board for the Promotion of Rifle Practice (NBPRP) and the Office of the Director of Civilian Marksmanship, Department of the Army. Although dating back officially to 1903 and unofficially through other boards or groups to around the time of the Civil War, the Board's activities largely lapsed during World War II and the Korean crisis.

Today the Army through the NBPRP and its implementing agency, the Office of the Director of Civilian Marksmanship, provides weapons, ammunition, targets, target carriers, field telephones and other equipment to no less than 3,200 clubs and schools throughout the United States.

Schools must maintain during the active school year a uniformed Corps of Cadets numbering at least 40 above 14 years of age who receive military instruction. Cadets must fire at least one qualifying course annually. Each school must

post a bond, and is responsible for care of equipment loaned to it.

Shooting clubs which are accredited by the National Rifle Association of America may be either senior or junior. Senior clubs, which may also have a junior division, must maintain membership of at least 10 physically fit citizens of the United States 17 years of age or above. Members of junior clubs must be under 18 years of age.

THE FIRST system of target practice by the Army was prepared by Captain Henry Heth (later to gain fame as a Confederate general) then of the 10th Infantry, and adopted by the War Department in 1858 "for the use of troops when armed with a musket, rifle musket, rifle or carbine."

In 1872 a "Manual of Rifle Practice" was prepared by General George W. Wingate, General Inspector of Rifle Practice, National Guard of New York, who first organized rifle practice as a regular part of military instruction for the National Guard.

By 1884 special insignia were authorized. According to General Orders No. 12, Headquarters of the Army, of that year, "marksmen qualifying during the current year will always wear one pair of marksman's buttons. Those qualifying for the second time may wear two pairs. After qualifying three times (not necessarily in consecutive years), a marksman's pin will be worn on the left breast."

The order specified that those who won the right to the pin would wear only a single pair of special buttons. A sharpshooter was to be indicated by a small bronze cross worn below the opening of the coat collar. Qualified marksmen were to be considered eligible for "selection to attend annual department competitions"—but a member of a de-

ARMY EXCELLENCE-IN-COMPETITION BADGES

These badges constitute a credit toward the Distinguished designation badges.



Pistol and rifle badges awarded for achievement in the National Matches.



These similar badges are awarded for achievement in the All-Army Championships, Army major command competitions and NRA Regional Championships.

partment team winning any three of the authorized prize medals would not be eligible for further competition "without special permission from the Commanding General of the Army."

This set up a "distinguished" classification of Army marksmen. Today the classification also has been extended to civilian shooters.

LATER, in 1903, Elihu Root as Secretary of War established the National Board for the Promotion of Rifle Practice. It was just one of his contributions to the modern Army. The National Defense Act of 1916 designated the War Department as the administrative head of the NBPRP and set up the Office of the Director of Civilian Marksmanship (DCM) to function as the implementing agency for the Board.

Based on the older marksmanship regulations, a category of "Distinguished Marksmen" was set up. To gain this coveted title, three preliminary medals were to be won in rifle or carbine competitions, or in pistol matches. (About 1928 badges for excellence in bombing were added to stimulate interest of the then designated Army Air Corps.)

TODAY'S rules for becoming a distinguished marksman are very much the same. One must win three badges, medals or equivalents thereto in recognition of an eminent degree of achievement in target practice firing with either the standard military service rifle or pistol. Each constitutes a credit or "leg" toward distinguished designation.

Among Army members it is mandatory that at least one of the three required "legs" be achieved either in the All-Army Championships held annually at Fort Benning, Georgia, or in the National Trophy Matches which are a part of the annual National Matches.

A civilian may gain at least one of the three required credits as a result of achievement either in the National Trophy Matches or for having placed in the upper 50 percent of all the competitors whose scores in individual matches in an Army major command competition or a National Rifle Association Regional Championship constitute a proper credit toward the award.

The National Defense Act of 1916 provided for annual competition known as the National Matches, together with a small-arms firing school, both to be held annually. Competitions are required to consist of rifle and pistol matches open to members of all components of the services, ROTC, rifle clubs and civilians. The National Trophy Matches are open to any able-bodied citizen of the United States 16 years of age or older on the date of the match entered.

EXCELLENCE-IN-COMPETITION BADGES AWARDED TO CIVILIANS

These badges constitute a credit toward Distinguished designation badges.



These badges are awarded to civilians for achievement in NRA Regional Championships and Army major command competitions.

Competitions are staged for trophies, medals and other prizes. In addition, the Act provides for competitions for which trophies and medals are provided by the National Rifle Association of America. Just as civilians may enter the National Trophy Matches, service personnel may under certain conditions compete in NRA National Championship matches.

more than 10 percent of the designated class of non-distinguished shooters completing a particular match can gain Excellence-in-Competition badges.

In Army major command competitions and the All-Army Championships, non-distinguished enlisted competitors (including those in Reserve components) are considered separately by score. In

NATIONAL MATCH AWARDS

of the National Board for the Promotion of Rifle Practice

These medals *may* constitute a credit toward the Distinguished designation badges.



Individual awards **Team awards**

AWARDS in the National Trophy Matches are strictly limited. Only those placing in the highest ten percent of all the non-distinguished competing shooters may win. Team awards are limited to each member of the highest one fifth of the total number of competing teams.

Results of each Army major command competition and NRA Regional Championship are considered separately. At the most, no

NBPRP-approved individual matches included in NRA Regional Championships, entitlement also is initially based on scores made by non-distinguished civilian shooters participating.

In each type of match, any competitor not previously distinguished who equals or betters the score of the lowest qualifying non-distinguished competitor also is awarded a "leg" on distinguished designa-

tion. However, it is possible that the scores of non-distinguished competitors may be so low that none in the group would qualify. In such cases, regardless of scores fired by other competitors, nobody in that particular match is entitled to award of an Excellence-in-Competition badge.

To members of the Army, Excellence-in-Competition badges are supplied through The Adjutant General, and are sent to immediate commanding officers for presentation at appropriate ceremonies. Civilian badges are supplied directly to the winner by the Director of Civilian Marksmanship.

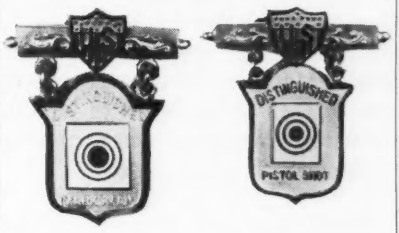
Working in close conjunction with the NBPRP is the National Rifle Association of America. Among its activities, the NRA annually stages Regional Championships throughout the United States and in Hawaii in which Army personnel may compete.

DURING the past year eleven Army major command competitions were staged, in which 3,418 Army personnel, 99 civilians and 102 Navy, Marine Corps and Air Force personnel took part. A total of 162 Army shooters and two civilians attained credits ("legs") toward distinguished designation.

In Regional Championships sponsored by the NRA last year, incomplete returns show that more than 700, including 405 civilians and 310 service personnel, have participated in the NBPRP-approved individual matches included in the program of such competitions with the result that an additional 28 civilians and 1 Army shooter have attained Excellence-in-Competition.

Inclusion of "leg" matches in NRA Regional Championships now makes it possible for many enthusiastic shooters to participate who previously could not afford time or money to attend the National Matches which have been held annually (exclusive of war years) at Camp Perry, Ohio since 1907. Not long ago, for instance, in the Southern Pacific States Regional Tournament, a man who last shot in the National Match in 1938, was able to attend and gained his third qualifying medal. He now wears the Distinguished Badge.

ARMY DISTINGUISHED DESIGNATION BADGES



Distinguished Marksman badge (won with rifle) and (at right) Distinguished Pistol Shot badge.

WHILE the Army has its Excellence-in-Competition badge, the Navy, Marine Corps and Coast Guard also have similar badges. To date the Air Force has no comparable badge. Personnel of all the services may participate in National Trophy Matches and NRA tournaments. The All-Army competition includes representatives from each of the major commands worldwide.

Another aid to marksmanship is the Small Arms Firing School conducted in conjunction with the National Matches by The Infantry

School at Fort Benning, Georgia. The curriculum is prescribed by the Secretary of the Army upon recommendation of The Infantry School through the NBPRP. It is open to all individuals attending the National Matches, whether competitors or not. Attendance to include those now holding certificates of proficiency is encouraged.

THE National Board for the Promotion of Rifle Practice, which is of a statutory nature, consists of 25 members, with the Honorable Hugh M. Milton II, Assistant Secretary of the Army for Manpower and Reserve Forces, as president. Membership of the Board consists of representatives of the Army, Navy, Air Force, Marine Corps, Coast Guard, the reserve components of the Armed Forces of the United States, the National Rifle Association of America, the Selective Service System, and the country at large.

In addition to fostering greater interest in marksmanship in the Army and among all citizens, the NBPRP today acts as custodian for the various historic individual and team trophies.

With increased interest and emphasis being placed on marksmanship, both within and outside the Army, it is possible that there are many individuals who in the past have gained a "leg" or more or who may even be qualified as distinguished, but have never been properly certified.

Civilians should submit application, with detailed statement of qualifications, directly to The Adjutant General, Department of the Army, Washington 25, D. C. Members of the Armed Forces who believe they are entitled to badges should submit application *through channels* to The Adjutant General.

Pertinent Army Regulations for guidance of commanders or Army personnel include: Competition in Small Arms, AR 622–10; National Board for Promotion of Rifle Practice and Office of the Director of Civilian Marksmanship, AR 920–15; Rules and Regulations for National Matches, AR 920–30/-NAVPERS 15880/AFR 34–18/NAVMC 1102; Promotion of Rifle Practice, AR 920–20; and Badges, AR 600–70.)

THE BEST "SHOTS" in each stateside Army and overseas command will compete in the All-Army Rifle and Pistol Championships at Fort Benning, Georgia, in June 1956. All Army commands will hold competitive marksmanship programs preliminary to the big matches at Fort Benning, where the top marksmen will be selected for the U. S. Army Rifle and Pistol teams. These teams will then compete in the National Rifle and Pistol Matches at Camp Perry, Ohio, in August and September 1956.

Training Topics

WHAT'S NEW

IN TRAINING LITERATURE, AIDS AND EXTENSION COURSES

Keep your organization current with the latest training materials by referring to this section in each issue.

TRAINING LITERATURE

While the following new literature will be published shortly, units are cautioned *NOT* to requisition copies, until receipt of automatic initial distribution or the items are listed in DA Pamphlet 310–3.

Service of the 75-mm AA Gun Skysweeper. This revision of a 1951 manual describes equipment, major components, recommended drill procedures, preventive maintenance requirements, antijamming techniques, and safety precautions.

Employment of Scout Dogs. This new training circular on the mission, organization, capabilities, and limitations of the infantry scout dog platoon provides commanders with tactical doctrine and training requirements.

Medical Service in Joint Oversea and Airborne Operations. A revision of FM 8–25 (1940), this new manual will be numbered FM 31–8. Besides presenting the mission of each of the military medical services, the manual covers the technique of employment of joint medical service including the estimate, planning, and operation aspects.

Field Artillery Gunnery. Changes Number 5 to FM 6–40, January 1950, provides information on employment of the graphical firing table fan.

Vulnerability of Armor. Changes to the following manuals will be published to stress the vulnerability of armor to ambush or maneuvering attack by well armed, well-trained foot soldiers.

FM 7–10, Changes Number 4, "Rifle Company, Infantry Regiment"; FM 7–15, Changes Number 2, "Heavy Weapons Company, Infantry Regiment"; FM 7–20, Changes Number 4, "Infantry Battalion"; FM 7–35, Changes Number 3, "Tank Company, Infantry Regiment"; FM 21–75, Changes Number 4, "Combat Training of the Individual Soldier and Patrolling"; and FM 21–75, Changes Number 2, "Combat in Fortified Areas and Towns."

Tents and Tent Pitching. This revision of FM 20–15 brings up-to-date the 1945 edition covering care, use, and maintenance of tents.

Manual for the Full-Track Vehicle Driver. A revision of the 1946 edition, this manual discusses and illustrates the techniques of driving full-track vehicles under various conditions and over various types of terrain.

Operation of Transportation Motor Pools. A new technical manual (TM 55–300) provides policy and procedures for administration and operation of transportation motor pools.

TRAINING AIDS

Training films distributed recently and now available to Army units through Training Aid Subcenters and Film and Equipment Exchanges include:

TF 5–1998	Bridge, Panel, Bailey Type M2—Part III—Multi-story Construction.
TF 5–2105	Aluminum Floating Foot Bridge.
TF 9–2121	Field Stock Control System.
TF 9–2195	Methods of Solution of the Antiaircraft Artillery Fire Control Problem—Part III—Similar Triangles.
TF 9–2199	Fire Control Systems, Medium and Heavy AAA Weapons.
TF 11–2180	Radio Sets AN/PRC 8, 9, and 10.
TF 19–2112	Military Police Town Patrol—Part II—Motor Patrol.
TF 44–2147	NIKE I SAM Battalion, Launching Area—Part I.

MF 30–8427 Armies of the World, Soviet Army—Armor.

MF 30–8443 Armies of the World, Soviet European Satellites.

PMF 5292 Medical Effects of Nerve Gas.

Graphic Training Aids subjects recently approved include: Truck Loading—Right and Wrong; Transportation Loading Tips; Hand and Arm Signals—Armor; Cross Section of M7A2 Antitank Mine (Transparency); and Rocket Launcher of M20A1, 3.5-inch (Transparency).

New Training Devices which have been developed, tested, procured, and distributed include—

Atomic Explosion Simulator. DVC 39–1

Consists of a set of explosives and smoke producing agents which can be emplaced easily and quickly and, when detonated, produces a reduced scale simulation of an atomic explosion without the danger of radiation or explosive force. It is designed for employment in maneuvers and combat exercises.

RCAT Controller Trainer. DVC 44–9

A one-quarter-size version of the OQ–19D which flies and is controllable with the standard RCAT radio controls. Permits training of RCAT controllers in areas where only limited space is available.

ARMY EXTENSION COURSES

The following subcourses have been approved for publication:

Transportation Motor Pools, S/C 30–17. Transportation School. The general transport administrative vehicle program; organization and functions of a motor pool; physical layout, facilities, management, supply procedures, and forms.

Military Justice VIII, S/C 40. Judge Advocate General School. A detailed study of the Law Officer's duties in preparation for trial, convening the court, pleas and motions, interlocutory questions, continuances, and contempts.

Ordnance Packaging and Crating, S/C 30–28. Ordnance School. Methods of preservation, packaging, packing, preparation for storage, and shipping; methods of unit and intermediate protection to include packaging specifications, cleaning, preservation, methods of unit protection, and packaging inspection; use of exterior shipping containers to include selection, materials for construction, types of exterior shipping containers, and waterproof barriers; truck and freight car loading and blocking; and marking for domestic and oversea shipment.

T38 Radar Tracker T9, S/C 30–64. Ordnance School. Operation of radar tracker T9.



The Atomic Explosion Simulator DVC 39–1—one of the new training devices currently being distributed.



PARAGRAPHS
from
The Pentagon and the Field



An adjusted deployment plan and a divisional strength goal of 19 Active Army combat divisions for fiscal year 1957 has been approved by the Secretary of Defense and the President.

In the Far East, the principal change affects Okinawa, where certain Army tactical troops will be replaced by elements of the 3d Marine Division. This will result in the inactivation of the Army's 75th Regimental Combat Team. The Army will retain command in the Ryukyus, also keeping civil administration and cross-servicing responsibilities

Another change in the Far East will be the movement of the 508th Airborne Regimental Combat Team from Japan to Fort Campbell, Ky., beginning in June 1956, to become part of a new Airborne Division to be activated there.

The 23d Infantry Division, with headquarters at Fort Amador in the Panama Canal Zone, will be inactivated, as will the 65th Infantry Regiment stationed on Puerto Rico. The other regiments of the division will be retained as active Regimental Combat Teams.

The 25th Infantry Division will remain in Hawaii. The 9th Infantry Division will be stationed at Fort Carson, Colo., when it returns from Germany in August to exchange stations with the 8th Division in Operation Gyroscope.



Attendance at the Ranger Course conducted at The Infantry School, Fort Benning, Ga., now is open to all military personnel who meet the prerequisites. Eligible personnel are encouraged to submit applications under Circular 621–12.



The old "Able, Baker, Charlie" alphabet so long familiar in Army communications has been replaced by adoption on 1 March of the International Civil Aviation Organization (ICAO) Phonetic Alphabet.

From now on it will be "Alfa, Bravo" —although the old familiar Charlie (for C) will continue in use. The change was made following adoption on 22 August 1955 of the alphabet by the Joint Communications-Electronics Committee for the United States joint use.

The new phonetic alphabet now runs: Alfa, Bravo, Charlie, Delta, Echo, Foxtrot, Golf, Hotel, India, Juliett, Kilo, Lima, Mike, November, Oscar, Papa, Quebec, Romeo, Sierra, Tango, Uniform, Victor, Whiskey, X-ray, Yankee, and Zulu.



Relative rank between personnel of various services is set forth in Changes Number 2 to AR 600–15 to clarify the status of the new specialist grade. Under the change, specialists rank according to their pay grades with corresponding noncommissioned officer pay grades of the Navy and Air Force.



Under revised promotion policies, physicians and dentists will be eligible for temporary promotion to the grade of major, lieutenant colonel, and colonel one year sooner than other Army officers. As a result, it is estimated that 800 medical and dental officers will be promoted to higher grades during the period ending 30 June 1956.



The Army Reservist *February issue was devoted to a round-up of recruiting ideas for Reserve recruiters. Proven methods used in the field—including ideas from all ZI Armies and many of the*

Military Districts—were included in the special issue. The 24-page magazine is distributed monthly to officers, noncommissioned officers and specialists of the first three grades, not on active duty but who are actively participating in the Reserve training program.

Construction began recently on the Army Package Power Reactor at the Corps of Engineers' Research and Development Laboratories, Fort Belvoir, Va. A prototype of a "package" power reactor under development for use at remote bases, the plant is being built of components transportable by air. The unit—a pressurized-water type with a capacity of about 2,000 kilowatts of electricity—is being built by Alco Products, Inc., on the Laboratories' grounds, where it will provide a training facility for the Engineer School.

More than a million and a half separate parts make up the Nike, the first combat-ready, surface-to-air guided missile system to be put into use in the air defense system of the United States.

The Signal Corps has awarded a contract for the development of Switching Set, Telephone, Priority AN GRA–11—an automatic preemptive switching device which, when connected to existing manual or dial telephone central office system, will allow the use of a given long line or trunk for both normal headquarters use and direct party-to-party service, with priority given to the direct-channel requirement.

Designed to inform dependents of facts they should know about transportation at Government expense, Department of the Army Pamphlet 608–1 has been distributed to commanders for issue to each service member in grade E–4 with more than four years service, or higher, who is being reassigned. Copies also are available to their dependents.

A Retired Activities Unit has been established at The Pentagon to handle administrative affairs and problems of all Army retired personnel. Operating under The Adjutant General, the unit will provide a centralized office to which all retired officers and enlisted men may call or write for information or assistance. In addition to being a clearinghouse for inquiries, the Unit will strive to keep retired personnel abreast of their rights, privileges, and benefits.

New insignia consisting of a silver or gold bar, with two or three lateral bands of brown enamel, depending upon the grade, has been authorized for Army warrant officers. By grades, the insignia consists of—

Chief Warrant Officer, Grade 4: silver bar with three brown enamel bands.
Chief Warrant Officer, Grade 3: silver bar with two brown enamel bands.
Chief Warrant Officer, Grade 2: gold bar with three brown enamel bands.
Warrant Officer, Grade 1: gold bar with two brown enamel bands.

The old insignia, however, may be worn until 1 December 1956.

The Ordnance Ammunition Command has been cited by the Nation's insurance companies for its outstanding safety record in manufacturing and handling military ammunition, which has resulted in reduced insurance rates and savings to the Government of millions of dollars.

Department of Defense acted recently to unify Army and Air Force military engineer construction organizations overseas. Heretofore, the Air Force provided its own support with personnel and units trained and organized by the Army, under an arrangement known as SCARWAF (Special Category Army with Air Force).

Under the terms of a memorandum to the Army and Air Force Secretaries, Army troops serving with the Air Force will be returned to Army control. Engineer construction units, working under Army control, will perform airbase construction and major repair in oversea areas as required by the Air Force.

Trained Air Force specialists will organize base personnel into emergency bomb damage control teams. In time of war, these teams will make such emergency repairs as may be required to damaged airbases, pending reinforcement by Army Engineer troops.



A supply management school for Korean Army officers, patterned after the Army Supply Management School at Fort Lee, Va., is being established under sponsorship of the United States Military Advisory Group to the Republic of Korea (KMAG).



Interested and qualified members of the Army are encouraged to initiate applications for entry in the 1956 Olympic trials and games. The Games of the XVI Olympiad will be staged 22 November to 8 December at Melbourne, Australia. Terminal dates for submission of applications are prior to 60 days in advance of the opening date of the final Olympic trials for the sport concerned. Department of the Army Circular 28–19 contains pertinent information on applications, trials, and the Games.

For the first time in six years the disposal of records in Army offices during 1955 exceeded records creation. This represents success in one phase of the Army's effort to reduce paperwork.

Another major 1955 accomplishment in records management resulted from the conversion of the SR 345–200-series into the AR 345–200-series. Size of the regulations was reduced by about 40 percent. Moreover, the new AR's are resulting in more economical and efficient operations through improved scheduling procedures, elimination of review actions at higher headquarters, reduction in copies of records control schedules, reduction in reading time, and increased volume of files that can be destroyed.



Signal Corps experiments with miniature radio equipment for use by infantry riflemen has been given new impetus with the recent development of transistors. Results of a preliminary investigation indicate the feasibility of installing in a composition helmet a radio set which will provide a communication range of about 200 yards. An experimental set mounted in a helmet has already been demonstrated.

Official Notes

BUDGET SYSTEM. AR 37–1 establishes the policies, procedures, responsibilities, and general instructions for operation of the Army Budget System; it also provides uniformity and a basis for systematic further improvement in this major administrative process.

INVOLUNTARY SEPARATION. Department of the Army Circular 635–11 provides for involuntary separation of enlisted personnel who are below current minimum standards for reenlistment.

RESERVE SUBSISTENCE. AR 140–251 implements various other provisions for authorizing subsistence in kind to all personnel of the Army Reserve performing either weekend or multiple drills within specified criteria.

PERSONNEL RECORDS. AR 640–98 is designed to preclude from being filed in an individual's record unsupported or unacted upon adverse matter other than counterintelligence information, which will prejudice the individual's reputation or future in the service; and also allegations that have been satisfactorily rebutted and/or have not resulted in elimination or disciplinary action. It also provides a system for resolving adverse matter contained in intelligence files.

ADVANCED BANDSMEN. AR 350–29 sets forth a program of service school training to prepare Regular Army noncommissioned officers in the top three grades to fill warrant officer bandmaster vacancies as they occur in the Active Army. A 20-week course is conducted at the U.S. Naval School of Music, U.S. Naval Receiving Station, Washington, D. C.

EFFICIENCY RATINGS. AR 623–201 emphasizes importance of the enlisted conduct and efficiency ratings and provides a guide to assist raters in determining the rating to be given. These are used in connection with other available data as a guide or criterion in taking various personnel actions.

RESIGNATIONS AND DISCHARGES. AR 635–120 covers restrictions on the right of an incumbent of military office to resign his office.

DATE OF RANK. Changes Number 4 to SR 135–210–1 directs that date of rank for Reserve officers of the Army will henceforth be determined at their first duty station in accordance with AR 600–15; and provides for establishing date of rank for National Guard officers coming on active duty.

OFFICER CANDIDATE COURSES. AR 350–50 sets forth the general policy and procedures governing selection of personnel for appointment as Reserve commissioned officers through attendance at an Army officer candidate course. The regulation takes up eligibility, methods of submission and initial processing of application, action by examining boards and by major commanders, and procedure at schools conducting such courses.

DEATH GRATUITY. AR 35–1370 sets forth the authority and prescribes the procedures for making payment of the six months' death gratuity to beneficiaries of deceased military personnel.

SUPPORT POLICIES. AR 130–400 enunciates the basic logistical policies and procedures of the Department of the Army pertaining to implementation of the National Guard Program, covering aspects of services, supply and procurement of materiel for the National Guard.

MEDICAL RECORDS. AR 40–400 provides instructions for preparation and distribution of individual medical records, used in the Army's system of medical statistics. These are records that contain a concise digest of outstanding facts of illness, wound, or injury to be used for study and evaluation.

SMALL ARMS COMPETITION. AR 622–10 sets forth rules for staging competitions in small arms firing, and provides that competitive marksmanship programs will be classified Training.

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Radio-Controlled Drone For Aerial Reconnaissance

AERIAL RECONNAISSANCE by use of a small camera-carrying radio-controlled drone—an adaptation of the familiar radio operated target plane—is the newest addition to the weapons of combat aerial photography to be announced by the Army Signal Corps.

Known as the RP–71, the drone has been instrumented and outfitted with still and motion picture cameras by technicians at the Army Electronic Proving Ground, Fort Huachuca, Ariz. With it the tactical commander can be supplied with aerial surveillance photographs in less than an hour's time. The drone can take pictures from a low altitude range of several hundred feet, up to heights of more than four miles.

With a wing span of only 12 feet and the same overall length, the drone can fly 228 miles per hour and climb at a rate of 3,060 feet per minute. It can operate in any area because it is jet launched from a catapult, thus eliminating need for an airfield.

The RP–71 will operate in all kinds of weather without risk to personnel, and can perform its mission without necessity of maintaining aerial superiority. It can provide surveillance more cheaply than many other means.

Operation is simple. The catapult can be assembled and the drone prepared for a flight in about five minutes. After it is catapulted aloft, a gasoline motor takes over to drive the propellor. A control operator on the ground guides the craft on its mission and returns it to the launching area, where the engine is stopped and a parachute brings the drone to earth. Within a matter of minutes the cameras can be unloaded and the films processed.

(For pictures of the RP–71 Radio-Controlled Drone on its catapult and jeep-mounted ground control equipment, see back cover.)




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